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Spring, 1985

Air Force Engineering & Services Quarterly

APR 1985
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Vol. 26, No. 1
AFRP 85-1

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Mr. Harry Rietman

END OF AN ERA

On March 1, 1985, an Air Force Engineering and Services era came to an end. On that date it was my privilege to preside at the retirement ceremony for Harry Rietman, our Associate Director since 1973. Harry's retirement marked the end of some 32 years of dedicated civil service, preceded by 4 years in uniform. He has been a member of the Air Force Civil Engineering/Engineering and Services family since 1955.

Harry Rietman was truly a leader in every respect—always low-key, willing to work the nuts and bolts issues, typically available to help others resolve the "too tough to solve" problems that seem to come into our office every day. No major initiative was undertaken by Engineering and Services over the past 12 years that didn't have Harry Rietman's fingerprints all over it. Readiness initiatives at home and overseas; facilities modernization across the Air Force; quality of life and family housing improvements; the marriage of Civil Engineering and Services that has done so much for every Air Force member; formation of the Engineering and Services Center—all these and many more came about only because my predecessors and I could call on him for advice and counsel. He is the "father" of the Engineering and Services Civilian Career Management Program, a visionary initiative to provide our professionals the ability to match their skills with job opportunities as they progress through their careers. In recognition of these and his many other achievements, we presented him the Air Force decoration for Exceptional Civilian Service during his retirement ceremony.

We will miss Harry Rietman personally and professionally, and I am sure that the men and women in Air Force Engineering and Services around the world join me in wishing him the very best in the years ahead.

CLIFTON D. WRIGHT, JR.
Major General, USAF
Director, Engineering and Services

AFRP 85-1

Vol. 26, No. 1

This issue commemorates the 25th anniversary of the Engineering and Services Quarterly.

Air Force Engineering & Services Quarterly

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The **Air Force Engineering and Services Quarterly** is an official, non-directive publication of Headquarters United States Air Force, published quarterly under provisions of Chapter 12, AFR 5-1. Its purposes are to

- Attract highly qualified personnel to the Air Force Civil Engineering and Services career fields.
- Promote effective training, education, and retention.
- Communicate vital concepts, policies and practices which affect the wartime readiness of the United States Air Force.
- Promote professionalism, and devotion to duty.
- Stimulate planning for the wartime survival of our personnel, weapons systems and facilities.
- Develop Air Force stewardship of the well-being, quality of life and facilities support to Air Force personnel and their families throughout the world.
- Promote awareness of the efficient, effective and essential facilities needs of the Air Force.
- Transfer knowledge of Air Force Engineering and Services' technical and scientific achievements.
- Promulgate teamwork among the Air Force Engineering and Services' total force.
- Achieve a professional dialogue to enhance the thought, development and contributions of the Engineering and Services team worldwide.

The **Quarterly** editorial offices are at HQ Air Force Engineering and Services Center, Tyndall AFB, Fla. Contributions, suggestions and criticism are welcome. Opinions expressed do not necessarily reflect the official viewpoint of the Department of the Air Force, the Director of Engineering and Services or the editorial staff. Authority to publish this periodical automatically expires in January 1986 unless its continuance is authorized by the approving authority prior to that date. The use of a name of any specific commercial product, commodity or service in this publication does not imply endorsement by the Air Force.

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by Maj. Gen. Clifton D. Wright Jr.

More than 100 issues of the **Air Force Engineering and Services Quarterly**, and its predecessor, the **Air Force Civil Engineer**, have been published. In the quarter century since the beginning of the magazine, we have developed "words and pictures" within our minds which describe our profession and how we go about doing our job. We have shared the experiences of others in Southeast Asia, in our professional education and training courses, in the Pentagon, in Europe, and in other parts of the world as they worked at finding better ways to accomplish their mission. We read about the emergence of RED HORSE, Prime RIBS and Prime BEEF. We learned to cope with the energy crises together, just as we have developed strategies to overcome environmental challenges, improve construction techniques, institutionalize comprehensive planning, etc., etc. By any measure, we have come a long way.

Another View

But, how do people on the outside of our profession see us? ...our peers within the Air Force? ...those in the higher echelons of the Air Force and the Department of Defense? ...those in Congress? ...the general public? There is a very large world out there, and the images we create, whether we realize it or not, affect the very existence of the Civil Engineering and Services career fields. How we are perceived every day as we do our peacetime jobs in no small way demonstrates to the leadership of the Air Force—from the Chief of Staff to the Wing and Base Commander—how well we will be able to respond to the challenge of our wartime mission. Simply stated if we don't consistently perform as the professionals we claim to be and deliver the product or provide the customer service we know we are capable of providing then we are projecting an image of ineptness, indifference, or a combination of both. Remember, everything we do is subject to review, evaluation, and criticism of others—that's the nature of our business. Interestingly enough, we have a great degree of control over the perceptions of those around us, i.e., the way they see us and the conclusions they reach regarding our ability to perform. We are in control! If we fail to put our best foot forward, then we have no one but ourselves to blame. We shape our own image, and if we are going to gain the confidence and respect of our commanders and our peers, we must have confidence in and respect for ourselves. It begins by knowing who we are and why we're here.

Engineering and Services Today

We have approximately 114,000 people in the Engineering and Services community today—active and reserve people who wear the uniform plus our civil service counterparts. In fact, our "community" is even larger than that when you consider the number of contract personnel who work with and for us. We also have to include our families—those who share our careers with us, and without whose support we could achieve very little.

Why does this force exist? There is ultimately only one reason. We are an essential part of the warfighting machine of the United States Air Force. This is only reason for our being. If it weren't for our wartime mission, we could just as easily be employees of a firm in the private sector responsible for operating and maintaining air bases in a benign peacetime environment.

Without Engineering and Services, our Air Force bases would come to a standstill. Think

about that! Not only are we essential to the peacetime operation of the base, the military side of our family must be ready to deploy and, on a few hours notice, support combat operations wherever they may occur. In the event of a contingency, we must also keep the CONUS airbase infrastructure going—the major aerial ports, the depots, the research and development centers, the Strategic Air Command, the Air Training Command, and the air defense network. This responsibility falls almost entirely upon the shoulders of our civilian workforce. We cannot lose sight of the fact that they too are an essential part of our capability to go to war.

People

No fighting force can exist without people. There is no resource more critical to the success of the Air Force. You've heard me, and others, say that before. We have to attract the very best, train them, retain them, and recognize their goals and achievements. Our people deserve a quality of life commensurate with the sacrifices we ask them to make. The Secretary of the Air Force and the Chief of Staff are dedicated to making the Air Force better than it has ever been. This is most vital to the morale and well being of a professional force. We in Engineering and Services are out in front of this initiative—better housing, high quality food in good dining halls, attractive and efficient commissaries; better places for people to work and relax, and—just as important—service to the Air Force customer that is second to none!

We have achieved standards undreamed of when this periodical was founded. Military service for most Americans was assumed to be an obligation. Either you were drafted, enlisted, commissioned, or were somehow disqualified for service. Military service today is often perceived to be what's seen on television or in the movies—the M*A*S*H or Beetle Bailey image. Our job is to dispell those myths—to create and foster the image of today's Air Force—motivated, smart young men and women who care and who know how to do their jobs with pride.

Let's look at some examples of where we can put our best foot forward: We can't discuss how to better project our image without talking about some of the key elements of our business that affect the public's perception of us in the everyday environment.

Training

Most of the military members of our community go through a technical training center where they are awarded a 3-level AFSC upon graduation. This means that the person is ready to go to work and further upgrade through on-the-job-training. This assumes, of course, that we have the capability to train at the base of assignment and that our journeymen and supervisors are going to spend necessary time training their people. The war fighting capability of the Air Force is based upon on-the-job-training. You are always training or being trained. One of the most important things we must do is make sure that our customers as well as casual observers of our operations understand that while we're out working we're training. That's why we may have three people on a job that could be done with two or even one. Remember, you are creating a poor image unless people understand what you're doing and why. Even though we know that's what's required to train that young carpenter or plumber or billeting clerk, don't assume the customer knows that. Don't get sloppy—train the way you must but make sure you don't have people "leaning on the shovels."

Training our civilian workforce is not as structured as it is for military. First, we assume a degree of technical proficiency that "qualifies" them for the job. Secondly, we then offer a mixture of training programs which can include courses at the Air Force Institute of Technology, the technical training centers, and even some commercially available courses. All of these are good, but two important elements—that must be done at the home base—are missing. One is job orientation, making sure they understand the importance of interacting with other sections and branches, and ensuring they are aware of and participate in development of organizational goals and objectives. The key home station training objective is to know how to deal with and operate complex systems turned over to us by contractors. With nearly $6 billion worth of new construction underway in the Air Force today and another $7 billion under design, it is absolutely essential that we make sure our people receive—before the fact—the training necessary to operate and maintain many of the complex heating, ventilating, and air conditioning systems as well as other electronic, mechanical, and sophisticated building systems we will be receiving. Our customers, the building occupants, will look to us to take care of this tremendous investment; be ready to do it professionally.

Above all don't forget that the military side of our family must also train in their deployment posture—Prime BEEF or RIBS—for their wartime mission. This complements the basic skills training and must be done with enough frequency to ensure they can function as a team.

There is no way to achieve our training objectives, military or civilian, without aggressiveness, intense dedication and perserverance. It means fighting for slots and money as required to support your needs, making sure that your people make it to the educational and training programs, and making sure you create an environment that motivates the work force. Education of our public is important. Articles in the base newspaper, addresses at Commander's Calls—there are any number of ways to communicate what you know is important.

Delivering the Product

Just about the time we feel the overall image of Engineering and Services is at an all time high, a

national television network decides to do a story on a project plagued by cost overruns and reports of poor workmanship and lack of quality control. Immediately we are put on the defensive and must fight an uphill battle to prove that the story is overblown and out of proportion. But the damage is done—our image as professionals is tarnished. Right or wrong we are painted as inept managers unconcerned about wasting taxpayers dollars. Why are we put in this position? Ever really think about that? We are more often than not put on the defensive because we tend to react rather than act—we often times seem to be in a defensive crouch rather than aggressively leading and managing. Even though some 98 percent of our military construction projects are completed with less than 5 percent cost growth, it's that 2 percent you hear about. Those of you—the great majority—working at the base level do a superb job on probably the same 98 percent of the work you do. Why, then, are you sometimes perceived as unproductive, wasteful, and unprofessional? It's because the 2 percent or so that gets screwed up are the ones people remember. The solution—let's all try to avoid the 2 percent by being aggressive leaders and managers, as well as good craftsmen, designers, or construction inspectors. Do a good job of planning, know your customer and his needs; we are the part of the Air Force being paid to build and maintain the plant. We can't expect our customers to know how to translate ideas and requirements to paper—we must do that. Do a good job of designing projects and managing construction. Cross check yourselves and your architect-engineer's work—we all make mistakes and will continue to do so, but let's do our best to minimize the number. Employ current technology and techniques; don't be afraid to innovate. Don't tell your customers why it can't be done; show them how it can be done!

When we go out to estimate a job, be professional. Remember, the customer is looking to us to solve the problem. Don't foster that old image of being the "look and leaver," leaving the customer wondering what you came for, what you're going to do and when you're coming back. When the customer asks why you're doing it this way or that way, don't shrug and say "I dunnó" or "that's the way we've always done it" or "because the regulation says." That turns people off faster than anything else. Explain to them why. Simple communications will boost your image significantly. When we communicate we are winners, when we don't, we are losers. In the dining hall, you project that image across the serving line with a smile and a "good morning, how would like your eggs." You project the image we want with an attractive serving line, well presented and appetizing. The Billeting Office is one of the most important places on a base—that's **our** job. A warm welcome, a smile, and "a nice to have you" goes a long way—it projects the image we want. We build tomorrow's image today. We sustain tomorrow's image the next day. It takes work.

The Choir

Like many birds of a feather, we tend to flock together. We commiserate with each other, pay great homage to our own, and talk a lot about our business. That's great—we must do that and we want to recognize achievers—that projects the image we're talking about. As I mentioned before, we need to reach out by putting articles in the base newspaper, the **Air Force Times**, the **Airman**, the Air Force Association's **Air Force** magazine, the Society of American Military Engineer's magazine—**The Military Engineer**, as well as our own **Engineering and Services Quarterly**. Getting publicity about the good things we do is crucial to the enhancement of our image. Be active in professional societies, visit campuses, speak to local groups and organizations, be a missionary! Your job is as important as any in the Air Force; be proud to tell the world what you do and how it relates to the mission of the Air Force.

Summary

Let's look at some guidelines to help create and maintain a positive image.

- Begin within. You can't sustain much in the way of a positive image, unless your people have a good feeling about themselves and what they do.
- Begin simply. Concentrate on what your organization is responsible for, and make sure that everybody in your organization does their individual job to the best of their abilities.
- Be detailed. Get together with each of your people and get to know how each does their job. Decide what they like about their jobs and what they would want changed.
- Be helpful. Either in a group setting, or through individual effort, work it out so that your people can be productive and like it.
- Be clear. Don't give up your mission to please your people. Make sure that they know what is expected of them, and why.
- Be consistent. Don't favor one person over another. Don't let conflicting principles make you appear indecisive and vague.
- Be open. Don't hide behind an office door. Let people bring you problems. Go to others outside your organization and do the same.
- Be responsible. You're working with public resources. Measure what you and your people do as if at any moment "60 Minutes" is due in to film a feature.
- Be candid. If you don't know a process or procedure, say so and ask questions until you do. You don't have to understand enough in most cases to actually do it, but you have to know what it's all about.
- Belong. Nobody is going to support you if they sense you belong somewhere else. If you're not willing to belong to your organization, your people won't be willing to commit themselves to it either.
- Have a plan. It doesn't just happen, but takes lots of thorough effort.
- Be responsive. Set your commitments to

your customers and, more importantly, keep them!

• Copy a winner. Learn from those that won the Hennessy or the Curtin awards. Visit bases who have won awards and find out how they are doing it. Ask for a CESMET visit; I guarantee they will help you!

What does all this have to do with image making? It is part of the total equation. Images are made by the way people answer telephones, the letters they write, and the jobs they do. Image can include fancy billboards and ads in magazines. But, if the product or service isn't there, mass exposure can be counterproductive. After a massive, multi-million dollar outlay, one airline's poor performance was such a contrast to its advertising and public relations claims that it became known as "the world's largest non-scheduled airline."

You must feel that you and your organization can offer the quality of "excellence" before your image will reflect it. But the task is not easy. We live in a peacetime world, train and plan for war, and find frequently that we are using facilities dating back 30 or 40 years. Our work forces are heterogeneous, representing many different ages, many cultural origins, and each member has personal hopes and aspirations. You must be willing to try tying these to what you do for the nation. As immodest as it may sound, that is what we each do. If we are not aware of what we do for our country, and why, and how our daily job relates to the security of our nation, we have automatically minimized the importance of what we hope to achieve. Be proud! If and when we are called upon to fight, you know that you can count on every person around you with long hours and self sacrifice to get the job done. This is their potential. Let them see it. But, also let them see how what they do tomorrow has meaning and significance. We all need to know that.

In the pages of the past issues of the **Civil Engineer** and the **E&S Quarterly** are astounding examples of how people respond when they are needed. There is an elusive inner quality that drives people to excel. It makes a very few people have a tremendous effect. Recently, as most of you have read in the winter issue of the **E&S Quarterly**, about 500 of our people—active and reserve—showed up on a simulated field of battle at Dobbins AFB, Ga., in the first CONUS-wide Prime BEEF Rodeo. Because of the competitive nature of the event, just about every record for accomplishing our wartime mission was broken. Almost every team in the competition far exceeded our best projections. Why? Because they came with that spirit and pride we have always seen. It was there in World War II with the aviation engineering battalions; in Korea, as we developed airbases under extremely severe conditions; in Vietnam, where we created an airbase infrastructure where once there were jungles and rice paddies; at Comiso, as we created and activated the first of the ground-launched cruise missile sites; at Cairo West and the first deployment of the Harvest Bare kits in real world conditions. It is still with us. But, we have to find it and nurture it. That is what leadership is all about—allowing our people to know what they can do—establishing confidence in their capabilities and communicating what we expect of them—and then letting them as a team find a way to exceed even that.

If we can do that, our image will be one that we can all be proud of and one that we are eager to pass on to those who follow us in the years ahead. ★

There is an elusive quality that drives people to excel. It makes a very few people have a tremendous effect.

'85 Perceptions

by Rich Johnson

Perceptions are what this article is about. What they are, where they came from, and what we can do about them on and off-the-job follow. The points here do not apply only to the people in roads and grounds or only to squadron commanders. Wherever and whoever you are in Engineering and Services, your perceptions influence what you do, how much you do, and how well you do it.

Do perceptions relate to the new **AFR 85-1**? You bet your next effectiveness report they do!

Do perceptions relate to productivity? You bet your job they do!

Do perceptions relate to Air Force readiness? You bet your life they do!

Perceptions were Plato's subject when he discussed shadows in a cave and concluded that people react more to shadows—images—than to reality. Perceptions were in mind when Epictetus said "Men are disturbed not by things, but by the views they take of them." Perceptions, 2,000 years later, were the point of Dr. William V. Haney's statement that "...people do not respond **directly** to reality but to their **perceptions** of reality...."

Today, perceptions are what the Director is talking about when he discusses the high visibility of Engineering and Services on every Air Force base. In this article, I'll cover: (1) what perceptions are; (2) different kinds of perceptions; (3) sources of perceptions; (4) the power of perceptions and "base blindness;" (5) perceptual screens; (6) perceptual lag; (7) the formula for practical use; (8) perceptions and emotions; (9) perceptions and work; and (10) changing the perceptions of your clients and customers.

Perceptions are...

My brand new Air Force-issued Houghton-Mifflin dictionary says a percept is: "An impression in the mind of something perceived by the senses...the basic component in the formation of concepts." It goes on to say that a concept is: "A general idea or understanding, especially one derived from specific instances or occurrences."

You and I have many "impressions in the mind." We call them many names. Maps, models, hunches, inclinations, assumptions, first impressions, roles, images, hypotheses, theories, beliefs, principles and values are some of the labels we use. To show how perceptions influence what we do, I'll make a distinction between people and rabbits. Both have an "automatic" system that causes their hearts to beat and their stomachs to function. Both have a stimulus-response system that causes rapid reaction to threat or pain. If we stopped here, people would behave much like rabbits—and rabbits would behave like people.

What makes the big difference in their actual behavior is that word "perceptions" that Plato, Epictetus and Bill Haney were talking about. People seldom react directly to a cue or stimulus. They react to **their personal perception** of that cue. Rabbits are more stimulus-response types. People are more stimulus-perception-response types. Our reaction to traffic lights and stop signs is pretty much stimulus-response. Our reaction to cues even slightly more complex is different. It is stimulus—**perception** of that stimulus—and a response **to our own perception.** Let me give examples of this difference and its importance as we look at...

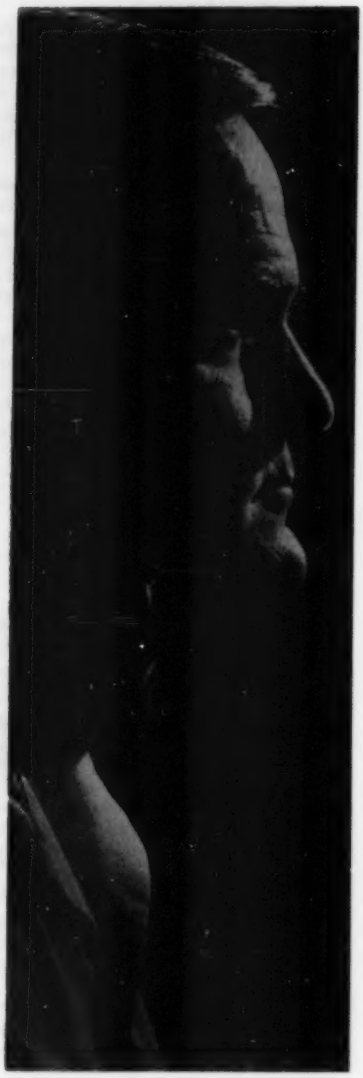
Kinds of Perceptions...

I have gone up and down the stairs to my office thousands of times without falling, yet it has been years since I've actually **seen** those stairs. The low beams on my bifocals are set for 18 inches. Anything beyond that looks like grits. I take a cue from the railing, another from the first step and bound up and down like a goat. The cues trigger a map or model in my head that I find quite dependable and useful. What was the process here? The cue of the railing triggered the mental model of the stairs—and away I'd go like a mountain goat. Stimulus—**perception**—response.

We all do things like that. How do you start your car in the dark? You can't **see** all the gadgets. The feel of the seat and the wheel gives you cues. The cues trigger perceptions, models, "programs" in your head. You are in business as long as you own that particular car.

At a fork in a strange road, you have a powerful hunch or inclination to take one branch rather than the other. Why? Because "an impression in the mind" tells you **that** better.

You didn't take your raincoat because you **assumed** it wouldn't



rain. Assumption? Another impression in the mind. Nobody ever promised you that all your perceptions would be true or accurate.

Woman's intuition? Nonsense. Women's lives program them to look for different cues and to decode or perceive them differently. Many women "read" events at a party as accurately as you and I read **AFR 85-1.**

We act in the special ways that we do because we believe certain things to be so. We each can be doing something different, yet each of us is doing what makes sense...not in terms of reality...in terms of our personal image or perception of reality. You march to the cadence of your perceptions; I march to the cadence of mine.

The social sciences have given a lot of attention to the many "roles" that you and I play everyday; the role of the female and the male; of bosses and subordinates. We each play our roles as we perceive they should be played; as we believe we are expected to play them.

"Self-image" has been big in the 70s. The idea is that your perception of yourself influences what you do, whether you continue your education, the kind of job you strive for, the kind of friends you feel you "deserve." Again, stimulus—**perception** (of role or self)—response.

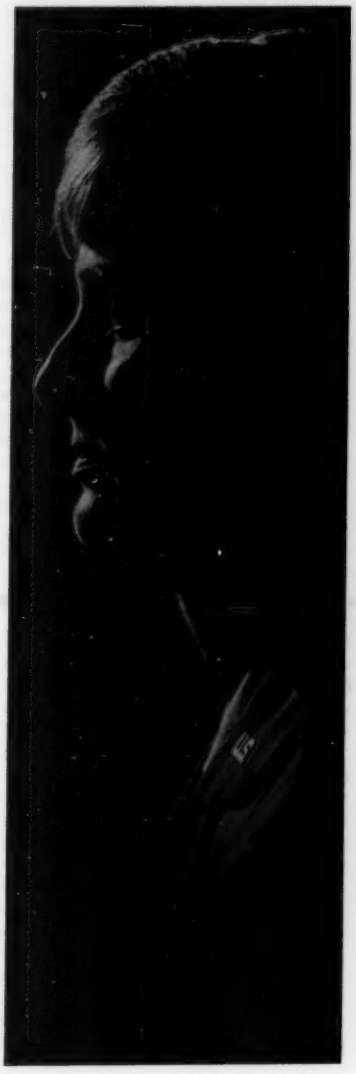
In other sciences, words like "theory" and "hypothesis" relate to what I'm saying. These are perceptions, mental maps or models in various stages of testing and development. Some of these have proven over the years to be close to reality and therefore quite useful. Alfred Kuhn in **Unified Social Science** says that there is a mutually supporting relationship between facts and theories: "As we improve our models we improve our ability to identify pieces of reality we are better able to improve our models." Thomas S. Kuhn in **The Structure of Scientific Revolutions** warns that sometimes what seemed to be a model is thrown out entirely in favor of another and, if this change is large enough, it can result in scientific, religious or ideological revolution. Again, stimulus—perception—response. A change in the perception can result in a revolutionary change in a society or an individual.

Perceptions range all the way from hunches to principles and values like "Duty, Honor, Country." The difference between a principle and a platitude is belief. It is the strength of your personal belief in a particular perception that makes the difference.

Sources of Perceptions...

In one word, perceptions come from living.

They come from our very early childhood experiences and feelings. They come from our parents, friends, schools, churches, heroes, television, books, and bosses. They come from our failures and successes in living and working. Dr. Morris E. Massey of the University of Colorado calls the failure or success experiences after childhood "significant emotional events." Whatever people choose to call them, you and I know that they are significant and they **are** emotional. Some are peak experiences, sparkling with the elation of discovery. Others are gut-wrenchingly terrible—but from them we may gain or change a perception and due to that, we may behave differently.



Power of Perceptions...

I say we **may** gain or change a perception and we **may** behave differently. Why isn't this a sure thing? Well, what is significant and emotional to me may be just another routine day to you. Then sometimes we are **ready** for a change and sometimes we are not. Usually this readiness has been building up for a time, then one day the straw comes along that breaks the camel's back. On **that** day, the event is significant and often emotional.

First impressions can give a perception both power and momentum. The first few times we see a person or an Air Force base, we are quite aware; we are checking things out with care. So first impressions can make a big difference. But, follow the idea one step farther. The first impressions reduce themselves to a form of shorthand in our mind. We then react to the shorthand cue without seeing the base or persons as they are today. This is the "momentum" of the first impression. It leads to "base-blindness." We react to a few cues as we drive on base, but we no longer "see" the gradual changes. Grass grows, paint peels; but the cues from our first impression linger until a significant emotional event (such as a new Base Commander) modifies our perception.

Other factors that can increase or decrease the power of a perception are novelty, frequency, utility, proximity, feedback, and reinforcement. **Novelty** is the vividness or impact of early impressions. **Frequency**, used by TV commercials, is the number of times that you are made aware of a new concept. **Utility** is the usefulness of the idea. **Proximity** or involvement means that what is "near and clear has more influence on you than what is far and fuzzy." **Feedback** modifies the strength of perceptions if it is predictable rather than random—and if it is related to a certain amount of pleasure or pain. How well something

new matches or reinforces what we already know is one more. We go out of our way to seek ideas that reinforce those we already have—and we deny, dodge or discredit events that might start a revolution among our own prejudices, perceptions, models, values—whatever you choose to call them.

Perceptual Screens...

Perceptions maintain power by the way they relate or mutually reinforce each other in our minds. This is our "perceptual screen," our personal interlocking network of beliefs. If one belief is threatened, they **all** are perceived to be vulnerable—a sort of mental "domino theory." To avoid threats to our screens, we seek out people with similar screens. We become friends; form groups. This is what makes it almost too easy to stereotype people in close-knit groups. They **do** drink the same beer, enjoy the same recreations and vote the same way **because** they have the same perceptions. They share reinforcing value systems. If you threaten their model, they may break your body.

Perceptual Lag...

Remember now, perceptions are not what is out there in the real world. Perceptions are more or less accurate models inside people's heads. Because these models satisfy people, they are inclined to keep the models long after the facts out there in reality have changed. People behave in terms of their old perceptions, not in terms of the new facts. John Kenneth Galbraith called this "The Conventional Wisdom." We can call it "perceptual lag."

At anytime in history, this factor explains why the tactics that won the last war are sure to lose the next. An example is the success of trench warfare in World War I and the failure of the cement trench—the Maginot Line—in World War II.

The Formula...

Dr. Albert Ellis developed the "A-B-C-D" formula that brings what I have been saying together for your practical use.

A = **Activating event**
B = **Belief system**
C = **Consequence**
D = **Dispute**

The **Activating Event** is the stimulus or cue. The **Belief System** is your perceptual screen. **Consequence** is the feeling or emotion triggered **not** but by the event—by your **beliefs** about the event.

Actually there are two "Bs." There are **rational** and **irrational** "Bs." The **Consequence** of irrational Beliefs is irrational emotion...feeling totally worthless...useless..."born to lose." The **Consequence** of rational Beliefs is rational emotion...normal happiness ... frustration ... sadness. That is where "D" comes in. The point is to **Dispute** or question your Beliefs and replace the irrational ones.

The "I must always be perfect" Belief has a **Consequence** of depression because nobody's perfect. After **Disputing** it, you may come to believe "sometimes I must try to be perfect—but sometimes it is OK to be raunchy." The **Consequences** of **that** perception can be perfectly normal emotions that are easy for you and others to live with.

Perceptions and Emotions...

Many perceptions are imprinted in our minds in "all-or-none," "always-or-never" terms. If you honestly believe that you should "stand up and be counted," "put up or shut up" on **all** issues that **ever** touch your life or your job, you'll be a psychological basket-case in no time. If you walk out of a course on motivation believing that **everything** you do will **either** motivate your people **or** tick them off, your job will be emotionally hairy.

On the other hand, if you believe that **some** things motivate, **some**

Dear Editor: PLOP!

by Rich Johnson

Things were different. It was the winter of '79 when "Believing is Seeing" came out in the **Quarterly.**

I've thought a lot about your question, exactly what **would** I do if I could write the article over again?

So many changes—that was over 2,000 days ago—political, economic, technical changes—changes in our leaders, changes in our people in Engineering and Services—changes in you and in me.

That is what the original article was all about, changes in the world and changes in our views, perceptions, and beliefs.

The important thing, it still seems to me, is trying to keep our ideas current and useful in the midst of all this confusion. If I did a rewrite, I'd focus on one point—how change occurs in one or more heads. Knowing that well, so we are aware of what is happening, could be useful.

Change is like a fat man climbing over a fence. I'm talking here of a *really* fat man—gourd shaped—pear shaped—a 400 pounder.

He sweats and he struggles and nobody really notices. This can go on for years and nobody knows or cares. Each of us has plenty to attend to without watching fat men.

Then one day—no, not one day, one *instant*—the balance of the fat man shifts. In the blink of an eye, all that mass of belief that was on one side of the fence shifts to the other and PLOP, you will never be as you were.

The world didn't change with that PLOP, you did! The world changed earlier. The PLOP was a shift or change in beliefs and values and perceptions. The PLOP was an update of your mental maps—of one of the "programs" in your head.

Lillian Hellman wrote *Watch on the Rhine*. It was about the impact of Hitler on Europe—on the world. A Southern lady in the twilight of her life summed up the changes when she said: "We have been shaken out of the magnolias." It was an elegant, Southern way of saying: "PLOP."

In the original article, I said:

> *First impressions can give a perception of both power and momentum. The first times we see a person, or an Air Force base, we are quite aware; we are checking things out with care. So first impressions can make a big difference.*
>
> *But follow the idea one step further. The first impressions reduce themselves to a form of shorthand in our mind. We then react to the shorthand cue without seeing the base or person as they are today. This is the "momentum" of the first impression. It leads to "base-blindness." We react to a few*

cues as we drive on base, but we no longer "see" the gradual changes. Grass grows, paint peels, but the cues from our first impressions linger until a significant emotional event (such as a new Base Commander) modifies perception.

Significant emotional event? What I was really trying to say was "PLOP."

The way work and people are managed reduced itself to a shorthand cue in most managers' minds until the book *In Search of Excellence* came out in 1982. Even though there were a lot of instances of a new management style before the book was written, the fat man was still sweating, struggling (and ignored) on the old side of the fence. Then the book came out and sorted a multitude of anecdotes into new patterns of managing—and PLOP!

Look how far *we* have come along the "Excellence" road since 1979.

People read the chapter about being "Close to the Customer" as though it were a brand new idea (people serving people, the obsession with quality and service, the intense involvement of top management in serving the customer). Certainly we can do better, but look at *our* track record on "Close to the Customer."

Our nominees for the Curtin Award this year have set unbelievably high standards of customer service.

At the Worldwide E & S Conference last December, people said that quite a number of services were going well—and that any service can be improved—they backed up their claim by handing in over 200 "Crawford Slips" suggesting 14 main categories where improvements might be made.

Our **Strategic Plan** *spells out in detail the "WHAT" of being "Close to the Customer."*

Project IMAGE *is well along in spelling out the "HOW."*

If I were writing "Believing is Seeing" today, I would have to take into account the fact that *we have come a long way* since the winter issue of the **Quarterly** in 1979. We are coming excitingly close to a good, constructive PLOP!!

Today I would write a shorter, simpler article. I would try to bind the idea of "perceptions" to the progress of Project IMAGE. Somehow, I would try to marry the perceptions and beliefs of an increasingly more youthful military work force to the needs of challenges of our Strategic Plan on every base.

But mainly, I guess, I'd deal with images that cause us to do what we do—and fat men...and fences...and sudden shifts in the mass of belief...and being shaken out of the magnolias.★

things tick people off—and there is a big fat area where people honestly don't give a rat's buttock **what** you do the emotional price you pay for doing your job will be less.

Am I saying your perceptions can drive you to drink? Yes, indeed I am. Many perceptions are irrational, incomplete or outdated because they are stowaways. We didn't know we were carrying them around; therefore, it would not occur to us to check them out. They are those unrecognized and unexamined perceptions that chase you into bars.

Perceptions and Work...

What you and I do—what all of us do—is a matter of perception. This includes how hard we work, the quality of our work; it includes everything from completing projects that contribute directly to base readiness down to the way we shine our shoes.

The values we hold influence the decisions we make.

The principles, hypotheses, and theories that we perceive to be relevant influence our effectiveness as opportunity makers or problem solvers.

Our perceptions of ourselves and the roles we play influence the impact we have on others.

Our assumptions, intuitions and hunches influence how well we do the multitude of routine tasks that are part of every job.

Changing the Perceptions of your Clients and Customers.

A perception that I believe you and I share is this: **To do your job in Engineering and Services today, you need all the help and cooperation you can get—from everybody on base.** The base commander must perceive your squadron as a "make it come true" squadron. The women in base housing must perceive O & M people as being helpful, cooperative and skilled in their work. The people in Hangar Two must perceive your people as being every bit as dedicated and professional as **they** are.

You get help and cooperation from the people on base who perceive that you are helping them. You get headaches from the people whose perceptions tell them you are **not** helping them.

It is a fact of your business, and you are not alone here, that your work causes you to be invisible when things go well—and highly visible when they don't. People **expect** the water to run, the snow to be removed, and the buildings to be comfortable. Your visibility increases when the service isn't right, when the toilets don't flush, when the runway deterioriates. Your profession has put you in a situation where people's perceptions of you and your work are formed when things are at their worst rather than their best. If you want your clients and customers to perceive you as a squadron that does quality work in a professional way, the essential point is to deliver. **Do** quality work. **Be** professional. There is no way around the fact that you have got to produce.

In addition to producing, there is more you can and should do to help personnel on base perceive the quality and professionalism of your work. These ideas have been around for a long time. They have been around a long time for only one reason: **they work.** They are not in random order, they are a series of steps. Like any step-by-step method, you don't leave out steps or skip around. To change perceptions in this way, you start with step one—and move out from there in an orderly fashion.

One: Get their attention. Create awareness. If people have never heard of your good work, they will not form **any** perception of it. Many ideas are competing for attention daily.

Your idea will not get attention unless it stands out from the rest. Keys here are imagination and creativity. If you have novel, fresh, varied ways to draw attention to the good work of your squadron, you have step one under control.

Two: Give them the "Gee Whiz" figures. First you get their attention and then they must know the bare-bones details that you want them to know. Here you are getting in the facts you want them to have—how many gallons, miles, man-hours, dollars. These simple, relevant facts go into step two.

Three: Show them how it works. Show the logic, the cause-effect relationships. Show them how the parts fit together—how your work relates to theirs. Except for matters of faith, people only accept what they understand—so explain how things work. Remember, anything people are not up on, they are down on. You don't want them down on Engineering and Services, so go out of your way to explain, teach, show, demonstrate, visualize how you help them get the good things they want.

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Four: Highlight the advantages. You have got to show them how the squadron, the project, or the plan works—but that is not enough. Point out the **advantages** of the plan. Don't leave this to chance. Don't assume the advantages are evident. Lay them in their laps—in big type—and with proof or illustrations of each advantage right at your fingertips if you need them. The secret here is doing your homework. You need it on this step and the next one.

Five: Custom-tailor it. You got their attention, gave them the facts, showed them how it works and cited advantages in general—now get specific. How will it make **this** base more effective? This is the other step where doing your homework pays. Know your man and know your subject. Make him hungry, then feed him. Pay special attention to his question. Often his question is not an objection, quite the opposite—you *have made* him hungry and his question is a plea for food. When I ask the car salesman: "But does it get good gas mileage?" I've already made up my mind I want the car. My question is a plea for evidence to help me justify my decision. By doing your homework, you are making it easy for him to do what you want him to do—to perceive what you want him to perceive.

Six: Help him maintain his perception. You made your point, now maintain it. This is called reinforcement. You are not out to win a debate, your object is to change behavior. You do this by changing his perception and then reinforcing the new perception. This means you **continue** to make him aware that his decision was the right one. In a subtle way, you are reworking steps one through five here. Keep him aware, give him facts, show how well the new way works, highlight and custom-tailor evidence that his choice was the right choice.

Briefly, here are thoughts I mentioned earlier in this article that you can use when your are changing perception and behavior. On steps one, two, three and four, remember: **Novelty, frequency and utility to get attention.** On steps two, three, four and five, remember: **What's near and clear beats what's far and fuzzy** when you are selecting examples and evidence to change someone's perception. Use examples from your base, your squadron. On step six, remember: **Feedback and reinforcement.** Feedback that is consistent and pleasing reinforces the new perception. Feedback that is consistently distressing reinforces the perception that you or your squadron should be replaced.

These steps are old and basic, but if you want to change a perception without doing a lot of additional reading and research, I would respect them—they still work.

Summary...

The Director stresses the importance of perceptions in Engineering and Services because of the high visibility of your work on every Air Force base. The General is in fitting company—Plato would go along with that. Epictetus did when he said, "Men are disturbed not by things but by the views they take of them." Dr. Haney agreed, when in his book **Communications and Organizational Behavior** he said "...people do not respond **directly** to reality, but to their perceptions of reality...."

Here in this article, you and I thought together about: (1) what perceptions are; (2) different kinds of perceptions; (3) sources of perceptions; (4) the power of perceptions and "base blindness;" (5) perceptual screens; (6) perceptual lag; (7) the formula for practical use; (8) perceptions and emotions; (9) perceptions and work; and, (10) changing the perceptions of your clients and customers.

As you have read and thought about these points, I hope you do see connections or relationships between perceptions and...the new **AFR 85-1**; productivity and Air Force readiness...if you do, you can bet your life (and mine too) that we will meet our challenges in Engineering and Services; we'll deliver quality work in a professional manner—and we'll have even more good times working together in the future than we have in the past.★

Services professionals

by Capt. Emerson A. Bascomb

Services professionals have a proud tradition of improving service for Air Force personnel and their dependents. Our dining facilities and unaccompanied living quarters stand as testaments to our continued success in improving the Air Force quality of life.

In recent years, we've committed millions of dollars to improve our food service program, and enormous progress has been made in this area: new serving lines, hi-technology equipment, redesigned kitchens, and improved dining room decor, in some cases exceeding the standards of better commercial restaurants.

A la carte feeding is another success story. An important benefit is the reduction in waste of food items. It modernizes management, improves food production techniques, and allows BAS personnel to pay only for the items they select. Coupled with highly motivated personnel, it allows us to provide the very best of service to our customers.

High quality service is also provided to troops under field conditions by Prime RIBS (Readiness in Base Services) teams. Greatly improved support to real-world deployments reflects our ability to perform our wartime mission and keep customer morale high. In other words, Services professionals are full time and essential players in combat readiness.

Our unaccompanied personnel living quarters and transient facilities are also highly visible areas of continued progress. At most bases, the days of drab institutional barracks and furnishings are gone. The millions of dollars invested enabled us to vastly upgrade physical structures and provide new furnishings and color-coordinated drapes, bedspreads, and carpets. These improvements not only enhanced the morale of our personnel, but transformed the barracks of yesterday into the dormitories of today—modern living quarters where unaccompanied personnel can enjoy their off-duty time in surroundings comparable to a private home.

If we are going to maintain this successful momentum, we must have assertive services leadership committed to the improvement of the profession. We must also confront some basic issues that continue to plague our career field:

- Low self-esteem by some.
- Failure to sell our peacetime and wartime missions.
- Failure to educate subordinates on organizational goals.

Some of us perceive our profession as undesirable and lacking in prestige and importance when compared to other career fields; that senior base leaders don't fully appreciate our contributions to the mission, don't adequately support our needs or provide deserved recognition. However, the senior commanders are not the problem. Usually, it's a failure on our part to "sell" ourselves and our programs to the base—leadership and populace.

Sure we work long hours while the majority of the base may be on downtime, but the self-satisfaction is well worth it. Yes, we are concerned about cross-trainees into our career field, but many are good ones and their contributions have had a positive impact. We are members of a very challenging and rewarding profession, performing a vital role to support the Air Force mission. We should all be proud of our performance and tell everyone about it every chance we get.

We have many open avenues to educate the base populace on our mission. These include: articles in the base paper; briefings at newcomers' orientations and commanders' calls; hosting colonels', first sergeants' and "Top Three" breakfasts in the dining halls; invitations for commanders and first sergeants to visit the areas that serve their personnel; an exchange program with other squadrons permitting them to work a day in Services while our personnel work in their areas. Inviting NCOWC and OWC members to tour our facilities; and, soliciting commanders and first sergeants to fill in for our personnel at billeting desks and dining facilities during special holidays. These help reach the base populace—ideas to increase everyone's understanding of our mission.

But we also need to keep our subordinates informed on our organizational goals and the methods that will be used to achieve them. We must:

- Make them full team players and solicit and use their inputs in taking new looks at old problems;
- Stress a personal commitment to excellence and self-development, and challenge them to stretch their contributions to the limits of their potential to achieve both organizational and personal goals;
- Provide appropriate feedback on a regular basis to identify areas requiring improvement and at the same time provide encouragement and reinforcement.

These practices can result in improved productivity, better working environments, and greater pride and job satisfaction within the organization.

When was the last time you submitted a subordinate for an award? Have you ever failed to submit a subordinate's name because "you didn't have the time" or "thought" the person couldn't win? If you are guilty of these in actions, you are doing your subordinates a great disservice and damaging your credibility. A strong recognition program is necessary to identify and reward our outstanding personnel and instill a greater sense of pride and self-esteem. As we continue to require performance "above and beyond" the normal, let's remember to recognize our personnel at every opportunity.

In conclusion, we must:

- Educate everyone to our mission.
- Educate our subordinates on our organizational goals and encourage them to be creative and work together in achieving these goals;
- Provide leadership—leadership by example and personal contact. These help assure that we develop and maintain a positive, constructive attitude that proclaims, "We are proud to be Services professionals and will do everything in our power to improve our profession." ★

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Building

Innovative Management Achi e

by Maj. Patrick M. Coullahan

The Project IMAGE Charter Workshop was held in May, 1984. The purpose of the workshop was to define the base civil engineering structure and policies to meet our needs into the 1990s, with primary emphasis on:

- Results management
- Manpower efficiency, and
- Constraint removal.

The workshop additionally set out to develop BCE productivity measurement indicators and to provide guidance for future functional workshops.

The workshop was viewed as a turning point for the Project IMAGE efforts to date, the thrust of which was to clearly define our roles and mission assuring the Air Force warfighting capability through the most efficient and effective utilization of peacetime resources. This was accomplished through development of a new mission statement which defined the civil engineering readiness training role and integral facility support role to provide "stationary platforms" for the projection of aerospace power. The Air Force civil engineering mission was then broken down into "product areas" which define the results of base civil engineering without regard to the organization or process used to accomplish work. (See the IMAGE article by Lt. Col. Paul Hains in the Spring 1984, issue of the **Quarterly**.)

Maj. Gen. Clifton D. Wright, Jr., HQ USAF/LEE, opened the workshop challenging the group to be innovative and productive in this crucial endeavor. The workshop focused on the results-oriented management concept. To overcome expected "turf protection" and to create an atmosphere of efficiency and productivity, several background briefings were given. Briefing topics included:

- Project IMAGE to date
- Model installation program
- Civil Engineering Materiel Acquisition System (CEMAS)
- Manpower and personnel issues
- Readiness
- Programs and work classification initiatives
- Work Information Management System (WIMS)
- Performance measurement
- Maintainability of facilities.

To broaden insight into other methods of facility maintenance, private sector representatives were invited to brief the workshop. The keynote speaker was Brig. Gen. Archie Mayes (USAF, Retired), who discussed maintenance concepts at Dallas-Fort Worth International Airport. Other presentations and panel discussions were made by Pan American World Services, Northrop Worldwide Aircraft Services, and Disney World. Also an "In Search of Excellence" video presentation was given featuring Dr. Peters, co-author of the noted management best seller.

Charter workshop attendees were handpicked based on their reputation of being innovative and creative. The core of the workshop included eight base civil engineers (BCEs) and deputy BCEs, plus 15 base civil engineering functional representatives. Other attendees included MAJCOM representatives, Air Staff/AFESC representatives, and Air Force Engineering Services Management Engineering Team representatives. In all, representation provided a combined total of over 900 years of base civil engineering experience.

The majority of workshop activities were focused on developing recommendations to improve BCE performance and efficiency to meet mission requirements with available resources for the next decade. A departure point assumption was made that the civil engineering peacetime and wartime mission capability would be maintained or improved upon; that manpower availability could expect to be reduced; and that resource dollars would remain relatively constant. The overall objective of the workshop was to define the best mix of resources and to match responsibility and authority at the lowest possible management level. Workshop participants were instructed not to dismiss ideas that bother us, might be tough to sell, might be tough to work in the staff, or those with high risk. Workshop participants were told to "leave no stones unturned."

Workshop activity was centered on the Crawford Slip Method. Dr. C.C. Crawford, inventor of the method and Dr. Robert Krone, professors from the University of Southern California, Institute of Systems Management, facilitated the Crawford Slip phase of the workshop.

The Crawford method is a system of coordinated and recorded brainstorming, which enables gathering of vast amounts of information in a short amount of time. Additional benefits of the technique are that all workshop members have an equal chance to participate in the initial and final workshop recommendations and that inputs are anonymous and accordingly, unbiased.

The first phase of the method is the

IMAGE

i eves Greater Effectiveness

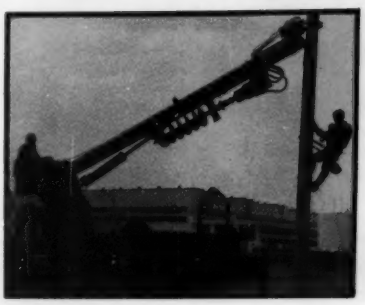
diagnostic stage where problems and opportunities for improvement are targeted. One of the most important targets in the Crawford Slip diagnostic stage was developed by AFESC entitled "Improved BCE Efficiency: How to Reduce Costs by 10 Percent." The workshop attendees wrote on slips of paper expressing individual thoughts and corporately discussed ideas. The responses to the targets led to some extremely valuable and thought provoking ways to improve base civil engineering. A group of five AFESC and AFESMET personnel joined Dr. Crawford in a behind-the-scenes, midnight-oil-burning, classification of the more than 3,500 slips collected. After categorization or classification of the slips, the group was tasked with providing specific inputs on each of 18 categories or targets developed. (See figure)

With this information in hand, the workshop was broken down into 18 two- to four-person groups to develop recommendations based upon the Crawford Slip inputs of the entire group. The entire group was then allowed to review and comment upon the recommendations. The workshop attendees were later organized into main groups to grapple the problems of BCE organization and productivity measurement through group dynamics. A summary of the charter workshop recommendations was forwarded to the major command Engineering and Services staffs for comment.

The Project IMAGE Mechanical Functional Review Workshop was held in August 1984, at Tyndall AFB. The purpose of the workshop was to perform the first of the Office of the Secretary of Defense (OSD)-directed Real Property Maintenance Activity (RPMA) reviews using the charter workshop targets. The goal was to determine how to accomplish the existing mechanical function (heating, refrigeration and air conditioning, and liquid fuels maintenance shops) work load for less money.

Mission
Computers
Constraints
Contracting out
Facilities O&M
Funding
Management
Human factors
Innovation

New technologies
Personnel
Organizational structure
Purchasing
Material
Standards/measurements
Vehicles and equipment
Training
Work methods



The workshop attendees representing more than 280 collective years of base-level mechanical experience, included mechanical superintendents; foremen from the shop, refrigeration and air conditioning shop, liquid fuels maintenance shop, and Air Training Command representatives, as well as AFESMET and AFESC participants.

The workshop focus and activities centered around:

- Taskings from the May 1984 Project IMAGE Charter Workshop
- A review of the mechanical work center descriptions
- Crawford Slip analysis on "how to do the job for less?"

The charter workshop prescribed that the Mechanical Functional Review should cover, as a minimum, the following:

- Multiskilling of heating, refrigeration, and air conditioning.
- Zonal maintenance.
- Cyclical work loads.
- Proficiency training.
- Use of temporary/part-time employees.
- Recurring work program.
- Vehicles, equipment, and tools.
- Materials and supplies.
- Performance measurement indicators.

As a result of the input from the Project IMAGE Charter Workshop, the mechanical workshop participants made the following key recommendations for enhancing the BCE capability:

- Retarget 7-level refrigeration/air conditioning training.
- Combine refrigeration/air conditioning and heating maintenance shops into a heating, ventilating, and air conditioning (HVAC) shop.
- Implement zonal maintenance for the HVAC shop.
- Reduce controllers upon WIMS

implementation.

- Realign appropriate controls responsibilities to HVAC shop.
- Make plant operations responsible for all plant operations and maintenance (O&M).
- Change the heating course to Category "A" training.
- Allow use of O&M funds for short notice manufacturer's training.
- Authorize dedicated vehicles to liquid fuels maintenance (LFM).
- Have LFM personnel maintain fuel system electrical components.
- Eliminate static ground testing.
- Make tank cleaning courses mandatory every 8 years.
- Require periodic attendance at the Petroleum Tank Cleaning Supervisor Course.
- Make the LFM Hydrant Course permanent.
- Separate LFM training from POL training.

The only major deviation from the Project IMAGE charter workshop taskings involved multiskilling. In the multiskilling area, the charter workshop had recommended combining the refrigeration/air conditioning and heating systems Air Force Specialty Codes (AFSCs). The mechanical review participants were strongly against such a combination. They believed that the two current AFSCs (Refrigeration/Air Conditioning and Heating) contained the requirement for expertise, which could not realistically and cost-effectively be obtained within the capability of the individuals working in these functions. The mechanical functional review consensus was that the wartime benefits of multiskilling could be just as well obtained through the establishment of a HVAC shop and zonal maintenance. This is because the two AFSCs will be working in one shop and assisting each other in accomplishing day-to-day tasks of the respective functions.

In the area of BCE productivity measurements, workshop participants proposed several indicators for local BCE use.

The Crawford Slip method proved beneficial throughout the workshop as a means for gathering lots of information and recommendations over a short period of time. At the beginning of the workshop the participants were asked "What do we do to make the mechanical function more cost-effective?" or, "How can we do the job for less?" Their recommendations, which were used throughout the workshop, included improvements or changes dealing with controllers, the controls function, materiel support, organization, personnel, the recurring work program, training, vehicles, equipment, tools, and work methods. One hundred and sixty ideas were recorded through the Crawford Slip technique throughout the mechanical functional review.

In September 1984, MAJCOM staffs were provided the mechanical functional workshop recommendations for comments. Significant initiatives were presented at the 1984 USAF Worldwide Engineering and Services conference.

Everywhere we go, we in IMAGE hear that the shortage of general purpose vehicles is a major obstacle to improving BCE productivity and that BCEs are impacted adversely by shortages. Several action items are under way. In September 1983, HQ USAF/LEE requested that the USAF Inspector General perform a Functional Management Inspection

(FMI) of base civil engineering vehicle management. The FMI was completed Sept. 28, 1984. The FMI included findings concerning vehicle authorization process responsiveness, weak vehicle justifications, privately owned vehicle (POV) use, and the BCE taxi system.

In August 1984, we joined with HQ USAF/LET to plan implementation of Project IMAGE initiatives dealing with general purpose vehicles. Our joint effort is aimed at making vehicles the BCE's tool boxes on wheels. As the largest customer of Air Force Transportation, our concerns are being worked hard. One initiative was comparing BCE organizations with profit-making private sector firms with similar missions. We found that the private sector personnel-to-vehicle ratios are around one-to-one, while the BCE personnel-to-vehicle ratios are typically greater than three-to-one. This causes transportation lag time due to several BCE work crews sharing vehicles, or inflating the size of crews, or waiting for taxis. Working jointly with Transportation, we are pursuing changes to the authorization process, the lease/rental process, and the vehicle TA Basis of Issue (BOI).

In September 1984, AFESC awarded a contract to Booz-Allen and Hamilton to determine BCE general purpose vehicle requirements. The contractor is working with the Center and the Air Force transportation community to develop optimum BCE personnel-to-vehicle ratios by shop, through work sampling, modeling and operations research techniques. This will be used to revise the BOIs contained in *Table of Allowance (TA) 010, Vehicles*. The contract study includes a cross-section of Air Force bases and will review the use of USAF general purpose vehicles, privately owned vehicles (POVs), and the BCE taxi system in BCE day-to-day work. The contract study estimated completion date is July 1985. Additionally, AFESC provided copies of draft AFP 85-2, *BCE Vehicle*

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Manager's Guide, to the field in August 1984. The goal of AFP 85-2 is to improve understanding of the existing program and to provide a reference point for improving current BCE vehicle situations.

We also are working at modernizing the BCE snow removal and exterior electric shop special purpose vehicle sets.

In November 1984, the electrical and EMCS functional review workshop was held at Tyndall AFB. In attendance were 24 base-level electrical, power production, and EMCS participants with over 350 years of collective BCE experience. The Recurring Work Program (RWP) was revamped to eliminate several unnecessary, costly requirements. The need for an electronics AFSC in BCE was resurfaced to include controls in the appropriate HVAC function. The impact of incorporating the performance of electrical tasks within the LFM AFSC was delineated. These recommendations were briefed at the 1984 Worldwide E&S conference. Results and recommendations have been provided to the major commands for review and comments.

We have recently moved to begin studies of BCE tools, communications, warehousing, shop layout, and environment.

With IMAGE we can redefine the way we do our business. Air Force civil engineering is big business, and we should be continually alert for new and better ways to do our job. Our enormous responsibilities, coupled with the need to reduce government costs, demand BCE managers do more with less each and every year.

Our senior leadership is convinced we are doing our job better than ever before, and yet the demand for even better services is ever-increasing. We can't and don't expect large increases in resources to meet these demands so we must improve our ability to manage the resources we have—manpower, equipment, money, and materials. We must do it at all levels—but most importantly, we must be able to do it at base level at each and every base.

The IMAGE staff welcomes your comments and recommendations. Let's hear from you! ★

Sell, my good man

by Maj. Philip Celmer

Another productive day and you've got that good old feeling that you have earned your pay. Your team has accomplished a record number of job orders and the job stoppages can be counted on just one hand. Wow! What an organization!

But wait, "good buddy." Your immediate boss, who just got back from the Air Force Institute of Technology's Commanders' Civil Engineering Orientation Course, informs you that over 50 percent of the wing commanders interviewed perceive the BCE organization as unresponsive. Gasp! Your certain OER 1 rating now looks like a 3 plus. You know this is a dynamite organization, why, then, is it so overwhelmingly ill perceived? What can you do? Sell, my good man! Get on the bandwagon!

Try this technique! Schedule a meeting, say every other week, with a squadron commander in the aircraft generation squadron, base communications, transportation, etc. Bring your: work authorization specialist; triple nickle production control honcho; chief of requirements; real property chief; and, for good measure, toss in the BCE or deputy and a technical service representative from the fire department. Invite the other commander to bring his or her top guns: First shirt, section chief, key building manager, etc.

Now for the phrase that slays—ask what concerns them. You will find that most of these folks do not know the difference between a work order and job order, and don't care, just as long as the work gets done. They will most likely ask you about a job they expect to be done tomorrow and you've never heard of it (it's in FY89 MCP for $88 million!). They also most likely will not know which buildings are theirs because they have reorganized and have given the old AGE shop to the Boy Scouts.

You will be amazed at how these little informal meetings can open your eyes to how the other people view your organization and its productivity. This meeting also serves as a forum to get little but killing items to the surface before they get to the head shed; i.e., "We'd have these engines tested if we could get a timely response on our request for new tie downs." Now, you and I know that the BCE organization can do anything with nothing, and if this turkey had given you a call instead of putting his 332 in distribution, you could have poured a tie-down and tossed in some old MA1-A chain before the grass grew an inch at wing headquarters.

The point is, crawl out of the ivory tower and meet your customer. It may be painful at first, but it's essential to know your clientel. Do it with a meeting every 2 weeks with a different key unit. In a year you can cover most average-size bases. One important must: go do it on their home turf. Chances are their commander or chief will want to show you a few minor irritants. (The worst one I saw was a collapsed ceiling, but some kitchens in Korea can put the fear of God in you.)

So far, each meeting has been full of surprises, and after the smoke dies down, a good feeling has emerged. One of the consistent realizations is that what seems important to us is not what they consider their top priority. We may be trying like crazy to get materials up to 100 percent for their new lights when what they really need is a new air line to their engine shop.

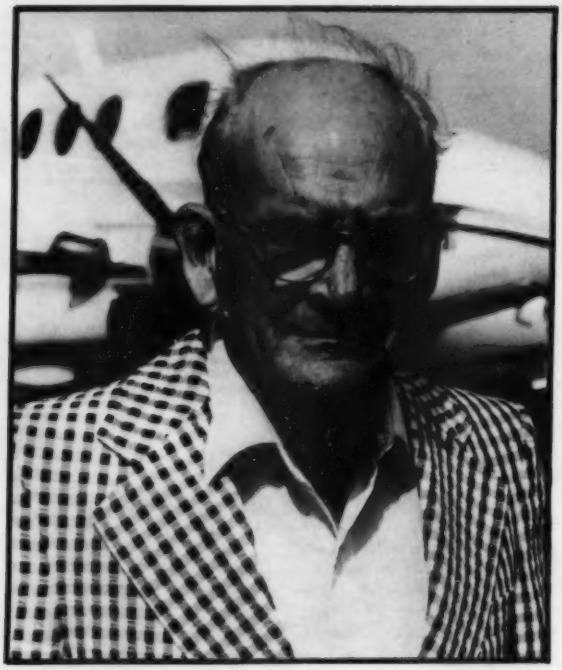
We are all paid to help people and, as a service organization, anything we can do to enhance our customer readiness fulfills our mission. At the same time, getting rid of the commander's gripes helps our image.

Go see these people, talk to them, show them you care. I'll bet you'll find the meetings will separate the wheat from the chaff, and your work force will be more productive. People enjoy doing meaningful work that is appreciated. I guarantee that, as busy as you are, these meetings will save you work and direct you to festering irritants before they get to your immediate boss. The word will get around that you care.

Image, right? You bet! ★

Maj. (lieutenant colonel selectee) Philip R. Celmer, HQ Air Force Logistics Command, Wright-Patterson AFB, Ohio, is chief of the Facilities Energy Division. He received a bachelor of science degree in Electrical Engineering from the University of South Carolina and also has a MBA in Public Administration.

Professionalism personified: Maj. Gen. A.M. Minton



by H. Perry Sullivan Jr.
Editor

If the founding father of the **Air Force Engineering and Services Quarterly** is Col. Clarence A. (Bud) Eckert (USAF, ret.), the godfather is Maj. Gen. A.M. (Gus) Minton (USAF, ret.), director of Civil Engineering for the Air Force 1957-1963.

When the **Air Force Civil Engineer** was first published in 1960, it marked a change from an in-house periodical, the **Civil Engineering Beacon**, a newsletter for the Air Force Civil Engineering Center at the Air Force Institute of Technology. The new periodical, designated AFRP 85-1, was designed to be a contemporary among the military engineering periodicals, with a broader mission to promote professionalism, and relate the efforts of the director's office to those of the major commands and the field.

"The first issue of the **Air Force Civil Engineer** is another step forward in our Professional Development Program," wrote General Minton in the first issue. "It is designed to serve you. It will serve you to the extent that you support and use it. The purpose of the **Air Force Civil Engineer** is to provide a medium of exchange of professional ideas and information which will result in a more effective civil engineering function in the Air Force."

General Minton explained that when the Air Force and the Army went their separate ways, the Congress did not wish to create a new public works agency. However, in addition to major construction management for Air Force projects, Army civil engineers remained responsible for operations and maintenance of Air Force bases. These Army people were known as "special category Army with the Air Force (SCARWAF)." The base commander's focal point was the air installation officer (AIO).

"We got a diverse crew. Some were highly qualified, some, who moved up into vacant positions were not as qualified. And there was the problem of identity," said Col. Wallace Grubbs (USAF, ret.), later General Minton's executive officer in the Pentagon, now living in San Antonio, Texas. He recalls a joke of the period attributed to one of the lesser qualified SCARWAFers. "Before I moved over to the Air Force I couldn't even spell the word *engineer*," said a SCARWAF "backfill" appointee. "Now, I are one."

General Minton led the fight to create the term "civil engineer." He said, "When I was commander at the technical training center at Chanute, we had an air installation officer. He was nothing but a handyman—a go-between. It took time, but we changed that concept to 'civil engineer.' "

General Minton is quick to point out that some of the SCARWAFers were highly qualified, indeed, including two of our former directors, Maj. Gen. Robert H. Curtin (USAF, ret.) and Maj. Gen. Guy H. Goddard (USAF, ret.)

General Minton found Air Force people needed to see themselves as responsible for their bases. To achieve this meant creating a new identity and a parallel responsibility among base civil engineering personnel.

Chanute urgently needed innovative

approaches to improve the quality of life on base, not caretaker services. For example, Chanute's dorms were each individually heated by coal-fired furnaces. Colonel Eckert, now living in Reston, Va., recalls a pall of black, sooty smoke that hung over the base, clogging lungs and contaminating clothing. Some dorms were hot enough to melt wax while others were frigid in the dank Illinois winter, and valuable student time was spent shoveling coal. General Minton had the civil engineers weld some old jet engine containers together to make fuel oil tanks. He then had the coal units converted to automatically fired oil furnaces. "You could instantly tell the difference," remembers Colonel Eckert. "You could breathe." Student productivity increased, and the do-it-yourself project saved thousands of dollars.

In due time, the SCARWAF was abolished, and a dedicated Air Force civil engineering function was begun. However, even the term took work. "The mechanical engineers weren't happy with being called 'civil engineers,' " General Minton recalls. "I pointed out that the first engineering school outside the U.S. Military Academy was at Cornell, and it was a 'civil' engineering school, as opposed to 'military' engineering up at West Point. That's how we got to be civil engineers in the Air Force."

The "schoolhouse" at Wright-Patterson AFB, Ohio, was a focal point in the new professionalism. Created in 1949 as the School of Installations Engineering to help bridge the gap between Army and Air Force installation management, it was renamed the Civil Engineering Center. Originally configured to approach two levels of demand, its curriculum was built around the 1,045-hour Staff Civil Engineer course, and the 247-hour Base Civil Engineer course.

General Minton used the school as a focus of professionalism. Colonel Eckert said it meant "not only instilling professional pride, but—moreso—becoming true professonals. He wanted anyone with a professional degree to become registered; those with unfilled educational requirements to complete them; and our young officers to be able to handle the demands of the times. He was trying to build an **esprit de corps** and show that we were just as good as the Army and the Navy."

For years, the officer corps came from the Army; from qualified eligibles already in the Air Force, who were made civil engineers at the "schoolhouse;" and from engineering schools, through AFROTC. But a continuing education requirement began to surface. Technology was moving too swiftly and there was a vital need to update knowledge. There was also a tremendous research need beyond the capabilities of the civilian undergraduate engineering schools and the AFIT in-residence program to prepare students. The nuclear hardening program was moving from research validation at the Air Force Weapons Laboratory to concrete in a short time span. The Air Force clearly needed research qualified officers who could guide the efforts of others.

The need for a doctorate program was both urgent and symbolic. Colonel Eckert gained more graduate opportunities for civil engineers in AFIT's civilian institution program. "In those days, hardening of missile silos was a very sophisticated science. From the nuclear testing program, we were developing engineering standards and designs for the Atlas, Titan and Minuteman. Almost all of our experts in the field were educators. Among the leaders in the field was Dr. Nathan Newmark. One of his proteges was a young Air Force officer named John Peters. General Minton had to go to the Chief of Staff to get approval, but John Peters was our first PhD. In later years, he rose to the grade of brigadier general. But it showed the Air Force and the world that we were creating a body of highly qualified professionals."

To establish the credentials of the school General Minton said to reach out to the leadership of the nation's engineering colleges and universities and give them an insight into the unique engineering challenges facing the Air Force, and—in turn—the nature of the challenge facing the school. Colonel Eckert devised Operation COOL SCHOOL. Leading educators annually were taken to the frozen north, where the Air Force was developing an operating capability in the Arctic environment, including a radar network.

As a bridge to the professional engineering community, a body of civilian engineers was enlisted to help the Air Force, largely uncompensated except for minor amenities such as space in the visiting officers quarters, travel and meals. They were taken to the ballistic missile sites, where new technology was being explored daily. One consultant's innovation was using gigantic springs as nuclear shock absorbers at the Cheyenne Mountain complex, later generalized to the Atlas, Titan and Minuteman systems. This helped "sell" the Air Force leadership on the need for developing a professional in-house engineering capability.

General Minton said he needed a professional publication:

- As a vehicle for persuading the potential professionals to register; and
- As a forum for these professionals to relate their challenges and achievements to their fellows, to the Air Force leadership, to Army and Navy counterparts, and to the technical, scientific and engineering worlds.

Because of its importance as a force in the new professionalism, the "schoolhouse" was the logical place to bed down the **Civil Engineer** and with it went the responsibility for getting it approved.

"We sold the Air Staff on the idea of a journal," recalls Colonel Eckert, "but, it was no easy task." Colonel Grubbs remembers, "I hustled the request through to get it approved.

It wasn't easy by a longshot. They were cutting everything. We started out with black and white because they wouldn't give us any color. One time we had a drawing of a heating plant. It required some way of illustrating the difference between hot and cold water and steam. I used this as an argument, and this is how we got color."

The **Civil Engineer** was used to facilitate registration. General Minton made a deal with the National Society of Professional Engineers. They agreed to accept military engineering experience for credit toward earning the status of professional engineer. This was communicated to the worldwide professional force in the **Civil Engineer**, together with a calendar of professional meetings, a schedule professional examinations, and recognition for the newly registered.

"I was told that the more senior civilians wouldn't get registered," General Minton recalls. "But, I told them that if they had any regard for themselves in their retirement years, they ought to put some priority into their registration. Not only that, it was a matter of professional pride. Soon, I started seeing these same civilians proudly hanging up their registration certificates."

There was also the need to communicate effectively. "I believe (the engineer) must have three abilities, in addition to those commonly required by service personnel. These three are: professional competence, keen managerial ability, and effective salesmanship," he wrote. "There is the unrecognized and little understood requirement of salesmanship on the part of the Air Force Engineer. Too often we are inclined to prepare a reasonable course of action to solve an engineering problem, then present it to those in authority on a take it or leave it basis. Too often we are inclined to hide behind a mythical shortage of resources when we should convince those in authority that good engineering practice and Air Force policy dictate a certain course of action. Too often we are content to be known as the base 'handyman' rather than make the effort to establish a reputation as a base 'civil engineer.' A reputation that is basically professional and based on solid performance should be the real goal. To me this type of salesmanship, if it can be called that, is necessary if one is to be a 'complete' Air Force Civil Engineer."

He established a civilian advisory committe to improve the "professional competence and stature" of Air Force Civil Engineers, with panels dedicated to electronic data processing, education, professionalism, technical operations and public relations. Among the original panelists was Ben Meredith, now technical director for HQ Air Force Engineering and Services Center, Tyndall AFB, Fla. He remembers General Minton as a steadfast believer in "getting your hands on the project." Meredith, who was new to the Engineering Division at HQ USAF, remembers General Minton's edict that professional engineers should not wear sport coats on the job; only a suit and tie.

At a time when the Air Force was undergoing a technological explosion, General Minton projected civil engineering into the forefront. The advent of the B-52s meant runways that could withstand the weight and shock of repeated landings and takeoffs. The Strategic Air Command wanted 12,000-foot by 36-inch portland cement concrete runways, the installation of which would put a base "down" for up to a year. However, a "keel" system at either end of the runway was cheaper, just as effective and far faster. He and his engineers won the point.

An air defense missile system, bedded down in a coffin, required a 10-second opening time for the multiton lid. He convinced the planners that a 60-second opening time would suffice, saving $90,000-$100,000 for each installation.

Among his proudest achievements is the U.S. Air Force Academy. At the outset, he was among those at Air Training Command who assisted in the site selection process. At the midpoint, he and Colonel Eckert helped search for an architectural and engineering firm. In the maturity of the project, he and the late Col. Albert E. Stolz (USAF) were successful in earning the Air Force its right to manage the project from inception to completion.

Another milestone was the Air Force execution of the Capehart-Rains housing program. The old Wherry housing was noted for being sited on bulldozed plats, with straight streets, uniform white houses, engineered to be inadequate and unlivable. Then-Col. Guy Goddard was given the mission to manage the new program. General Minton told him "I wanted no straight streets, no white houses, and I wanted them to be livable." He said Goddard was a master of telling the people at the Office of the Secretary of Defense why we needed improved housing. This mastery eventually gave the Air Force an improved lifestyle, extending to base services, recreational facilities and health care, and helped earn Goddard the promotions which eventually made him Director of Civil Engineering.

The advent of the Minuteman found heavy involvement of civil engineers at the Air Research and Development Command's Ballistic Missile Division coupled with a regional civil engineer at HQ SAC. This gave the Air Force the kind of technical control needed to work through the Army Corps of Engineers.

New state-of-the-art technologies were necessary to achieve a credible deterrent missile capability. This aptly demonstrated the consortium of in-house engineering and scientific capability—applied engineering leadership guiding the design agent and the contractors to deliver a quality product.

Colonel Eckert feels these efforts were far more effective because of the presence of the

Turning point:

A professional editor

Staff assignments for the new publication frequently fell on the faculty of the Civil Engineering Center.

A civilian editor who stayed long enough to stabilize the staff and make progress was Steve Canton who formerly headed publications for Babcock-Wilcox Co. and the Railway Express Agency. As a free lance writer he also wrote for popular publications. During World War II, he did some public affairs work. At Wright-Patterson AFB, he found himself in a technological explosion in the Air Force, involving the space program, missile beddowns, northern tier radar sites, and the growing challenge in Vietnam. Canton travelled the world covering the contributions of civil engineers to the Air Force mission. He left the **Civil Engineer** to help charter the **Air Force Comptroller** in Washington.

Steve Canton

Early Editors

James T. Anders, Acting Editor
Lt. James R. Craig Jr.
Lt. George E. James
Graham T. Horton
Lt. Charles L. LaValle
Henry S. Pointon Jr., P.E.

Canton guided the **Civil Engineer** to win its first awards, and he made it comparable in quality and thrust to the best, the **AMC Worldwide**, edited by the late Frank Frazier.

His new book, "Terminal Justice," is a novel about terminal cancer patients who vow to impose their own brand of justice on criminals. "Now, I write what I want," he smiles.★

Civil Engineer as a journal of record through which to communicate the challenges and accomplishments.

Throughout the time until General Minton moved to HQ PACAF, the use of the **Civil Engineer** as a vital and unique communications vehicle evolved with need. When Graham T. Horton, the first civilian editor, left, General Minton hired Steve Canton, a professional editor. Canton recalls that General Minton interviewed him in Washington and almost immediately sent him to cover the Cuban Missile Crisis buildup at Homestead AFB, Fla. This cemented a new flair for personal journalism in which the editor functioned as a reporter for the professionals of civil engineering, writing about important timely events in the making.

To further promote professionalism in the periodical, Colonel Eckert assigned a creative art director (Ward Cruea, now retired in Dayton), and two lieutenants right out of the classroom (Lts. James R. Craig and George E. James) to function first as acting editors, and later associate editors. At one time, the magazine had six professionals assigned.

General Minton's desire for professionalism extended to the authorship of articles. To foster written communication skills, he gained support from the Aerospace Education Foundation of the Air Force Association, establishing an award for the best article appearing in the **Civil Engineer** in a publication year. The best author has been recognized since 1960. The award is now named in his honor.

Colonels Eckert and Grubbs credit General Minton with the unique perception of a role for civil engineers in space. Colonel Eckert remembers that when President John F. Kennedy chartered the path to the moon, General Minton insisted that Air Force civil engineering begin planning for a professional place in the space operations requirements of the nation. In General Minton's time, civil engineering had indeed come a long way.

When he left the Pentagon to become deputy chief of staff, Administration and Logistics, for HQ Pacific Air Forces, he wrote, "We are well into the Age of Technology. During this short period of 6 years, hardly a wink of the eye in the eons of time, we have seen elaborate weapon systems such as the Navaho, the Bullgoose, and the Skybolt die before they complete their testing period. We have seen others such as the Snark, Thor, and Jupiter born, serve their life span and die. We have seen seemingly impossible construction projects such as BMEWS, Ice Cap Stations, and the ICBM consummated by engineers who have vision, imagination, technical competence and a steadfast belief in the Profession of Engineering."

All is recorded in the pages of the **Air Force Civil Engineer** and in the memories of those who worked so hard together to create a new Air Forc civil engineering professionalism.★

Alert facility at Fairchild AFB, Wash.

Golden opportunity

by Lt. Col. Jeffrey H. Markey

Nothing builds image like a big job—a tough job—done well. Our best sources for this type of job are our construction programs, where our goal for every project is a quality project, on time, within the money.

But this is easy to say and hard to achieve. Too often in the past we've failed to meet this goal for any number of reasons. Maybe we had to cut our landscaping and reduce parking to get the cost within an inaccurate programmed amount. Maybe we didn't perform a comprehensive interior design and ended up filling a 1970s building with 1940s furnishings. Maybe we didn't thoroughly understand the user's functional requirements, which resulted in a building that they "just couldn't use." The list goes on and on. The point is—we simply must do better.

With the recent growth in our construction programs, we have a much greater opportunity to build either a positive or negative image. This is especially true for the Military Construction Program (MCP) and Real Property Maintenance Contracts (RPMC) which are both funded at three to four times their 1980 levels.

When we set out to find ways to better achieve our goal, we discovered that the entire construction industry is in trouble. Construction costs are too high and productivity is too low. The Department of Commerce's index of construction costs number rose from 100 in 1967 to 304 in 1980, while the consumer price index climbed from the same index of 100 in 1967 to 241 in 1980. Construction has been the only industry with consistently negative productivity growth since 1965, including a drop of almost 20 percent during the late 1970s alone.

Since construction is among the biggest industries in the U.S.—about $300 billion a year—its health has a significant impact on the health of the entire economy. Construction expenses go into the economic base that determines costs, prices, profitability, and, the ability to compete. A weakened economy is, of course, a national problem, affecting not only business, but also world politics and, ultimately, national defense. Thus, we are very interested in trying to help turn the construction industry around.

Another organization with the same vital interest is the Business Roundtable, an association in which the chief executive officers of some 200 major companies focus and act on public issues. Construction has been a major concern since the Roundtable was formed in 1972. Its construction committee has long been active in promoting quality, efficiency, productivity, and cost-effectiveness in construction.

In 1977, the Roundtable initiated the Construction Industry Cost Effectiveness (CICE) project which investigated all aspects of construction, not just field performance. Over 250 people worked on this project for nearly 4 years. The end result was a 23-volume report titled "More Construction for the Money," published in January 1983. The report contains 223 recommendations for action by owners, contractors, labor, and government. Each of these groups played a part in creating problems, and each is going to have to work closely with the others to solve them.

Most of the study's recommendations involve ways to better manage construction projects from initial planning to completion. Another common finding was the need for greater involvement by owners in all phases of construction projects. Since owners pay the bills, they are often the only ones who can effect change. They must decide what they permit, require, and accept responsibility for and then enforce those decisions. As managers and owners, these findings were very meaningful to us and served as the catalyst for both external and internal actions.

On the external side, Maj. Gen. Clifton D. Wright Jr., Director, Engineering and Services, HQ USAF, was in a unique position. As President of the Society of American Military Engineers (SAME), he established "Helping Our Nation Get More Construction for the Money" as the society's theme. Through SAME meetings and publications, we have been able to spread the word concerning the CICE study. Awareness of the need for action is one of the biggest problems in the industry and SAME has helped significantly in this area. SAME also offers a forum for owners, designers, and contractors to get together and communicate concerning industry problems. They may even elect to bring their collective weight to bear via SAME in order to effect change.

Internally, we have implemented several ideas to help us reach our goal for each project, and we're working on others. Briefly, I'd like to share these with you. First, we recognize that good communication and teamwork are essential ingredients in any successful project. To open the channels, we've set up special management teams for complex projects. All parties are represented, and the teams meet regularly to *communicate*, from project inception to completion—a simple concept, but it has paid big dividends. We've reorganized our

The commissary at Little Rock AFB, Ark.

regional engineers so that for every project there is one person responsible from inception to operation. This has eliminated the classic problem of the communication breakdown between design and construction managers.

We've begun a program to produce a comprehensive plan for each base so that solid planning can precede individual project programming. We have a formal training course for our programmers so that we can do a better job of describing what we want in our projects. In conjunction with this, we have improved the format of our project book, the instrument we use to transmit requirements to the designer. We've established an independent cost estimating/analysis capability at the Engineering and Services Center to sharpen our foresight on costs for large or complex projects. Four bases have tested the American Institute of Architects (AIA) MASTERSPEC concept in their contracts and have been very pleased with the results. It improves communication! DOD is now looking at adoption of a non-proprietary version of MASTERSPEC for all DOD contracts. We're now requiring some form of value engineering for all of our projects over $2 million. We developed a simplified system of controls that must be used in the design of every HVAC system that we buy. This will reduce cost, simplify construction, and ease operation and maintenance. We are producing a comprehensive interior design (CID) for projects where it's applicable since the design of the interior is just as important as that of the building itself. We are currently trying to establish a test program whereby all interior furnishings and prewiring for telephones, computers, etc., would be included in the construction contract and paid for with construction funds. This is the best way to have a complete and useable product at the end of the construction contract. We have created post-occupancy evaluation teams (POETs) to follow up on a project, maybe 6 months to a year after the customer moves in, to determine how well we did our job.

We are examining and using different methods of contracting for selected projects when appropriate. For example, we obtained Congressional approval for a cost-plus-fixed-fee contract for the Peacekeeper assembly, surveillance and inspection building in Wyoming. This helped us to avoid having to manage more than one prime contract for this multi-year-funded project that was not clearly defined at the beginning. We recently awarded a turnkey contract for a major Air Force command and control center expansion. The contractor will design and construct the structure as well as procure and install equipment and furnishings, to give us a complete, integrated product. We're increasing the use of performance specifications for projects like water towers and hangar fire protection systems where standard "products" from industry can be used. We're looking for ways to put incentives in contracts rather than *disincentives*. Whenever possible, we want to share with the contractor any gains that result from high-quality performance. We're finding a great deal of interest in third party financing—whereby a private proposer finances, designs, builds, and operates a facility and we agree to buy his product or service at a fixed price, for up to 30 years. We're about to award our first contract of this type for a solar-driven, high-temperature hot-water heating system at the Air Force Academy. We also have a large conventional heating plant project approved.

Lt. Col. Jeffrey H. Markey, PE, is the special assistant to the Director of Engineering and Services, Headquarters USAF. He holds a bachelor of science degree from the U.S. Air Force Academy and a master of science degree from the University of Illinois, and is a graduate of the Armed Forces Staff College. A registered professional engineer in Colorado, he is a Fellow of the Society of American Military Engineers (SAME) and the Air Force's appointed national director of SAME. Before his Air Staff assignment, he was the construction coordinating officer for the headquarters building at HQ Air Force Engineering and Services Center, Tyndall AFB, Fla., and chief of the programs and operations and maintenance branches of the 601st CES, Sembach AB, Germany.

All of these actions will help us towards our goal, but we need another key ingredient—involvement and commitment by our key players at the bases and MAJCOMs. There is much you can do, externally and internally. Get the Roundtable study and read it. Educate others on the problems and recommend solutions for the construction industry. Become active in SAME or any other group that is working these problems and finding solutions. For our own projects, get involved earlier and commit to a quality product, on time, within the money. Don't rely on the agent or your inspector to take care of your projects. Concentrate on thorough planning and programming and quality design—they are the keys.

In summary, our expanded construction programs offer us a golden opportunity to enhance our image and help solve a national problem by achieving "more (and better) construction for the money." All of us must take advantage of this opportunity to the maximum extent possible.★

ENGINEERS' WEEK HONORS WINNERS

The 23rd Annual National Engineers Week Luncheon was highlighted by the presentation of awards honoring outstanding performance in Air Force Engineering and Services.

The following awards were presented:

Newman Medal—Sponsored by the Society of American Military Engineers, the medal annually recognizes the most outstanding contributions to Air Force military engineering.

The winner is Brig. Gen. Joseph A. Ahearn, deputy chief of staff, Engineering and Services, HQ U.S. Air Forces in Europe, Ramstein AB, Germany.

He was cited for exceptional leadership, foresight and managerial-skills contributing dramatically to mission readiness and quality of life for the people in USAFE.

Curtin Award—The 432nd Civil Engineering Sq., Misawa AB, Japan (Pacific Air Forces) won the SAME-sponsored award for being best USAF CE unit.

Even while bedding down two squadrons of F-16 fighter aircraft, the squadron's achievements included significant improvements in: resource management; quality of life; resource conservation; and customer relations, earning it an excellent rating from a command Management Effectiveness Inspection team.

USAF Federal Engineers of the Year Awards—Sponsored by the National Society of Professional Engineers, they are presented to outstanding civilian and military engineers in the federal government. The civilian winner is Harry P. Rietman, the retired associate director of Engineering and Services, HQ USAF, cited for his sustained leadership and management skills in helping guide the destiny of Engineering and Services in a period of dramatic program growth and unique worldwide challenges.

The military winner is Maj. Joseph H. Amend, HQ Air Force Engineering and Services Center, Tyndall AFB, Fla. Chief of the Pavement Evaluation Team, he brought a completely new nondestructive pavement evaluation system from prototype to fully operational status.

Goddard Medal—Sponsored by SAME, it annually honors an outstanding CE NCO.

The winner is SMSgt. James T. Mark, mechanical superintendent, 52nd CES, Spangdahlem AB, Germany (USAFE) citing his leadership, technical knowledge and initiative.

Air Force Civil Engineering Meritorious Achievement Awards—The military winner is Capt. Timothy G. Wise, chief of operations, 305th CES, Grissom AFB, Ind. (Strategic Air Command), for applying forecasting techniques, better quality control and performance measurement standards to improve productivity.

The civilian winner is George Provencher, fire chief, 380th CES, Plattsburgh AFB, N.Y. (SAC), for innovative improvements to the base's fire protection capabilities resulting in outstanding ratings in all inspections.

Air Force Civil Engineering Civilian Managers of the Year—The uppergrade winner is Leon W. Phillips, electrical superintendent, Directorate of Civil Engineering, Armaments Division, Eglin AFB, Fla. (Air Force Systems Command), for expertise in managing the vast electrical distribution system.

The lowergrade winner is Leo A. Marleau, chief of the Family Housing Branch, 10th CES, RAF Alconbury, U.K. (USAFE), for major housing improvements to significantly enhance quality of life.

Air Force Civil Engineering NCOs of the Year—The senior NCO winner is CMSgt. Charles L. Byrd, fire chief,86th CES, Ramstein AB (USAFE), for leading the largest, most diverse fire protection branch in USAFE to its first excellent MEI rating

The mid-level winner is TSgt. Ramiro Camarillo, Interior Electric NCOIC and supervisor, Tab Vee shelters maintenance, 36th CES, Bitburg AB, Germany (USAFE), for major improvements in facility maintenance for the mission-critical shelters.

Family Housing Branch of the Year Awards—Winner (1,000 or more units) is the 2949th CES, Hill AFB, Utah (Air Force Logistics Command).

The winner (less than 1,000 units), is the Family Housing Branch of the 47th CES, Laughlin AFB, Texas (Air Training Command).

Lt. Col. William H. Bordner Awards—Winners are:

- Central heating plant (over 14 million BTU per hour)—432nd CES, Misawa AB (PACAF).
- Primary power generating plant (100 to 2,000 kilowatts)—Det. 25, 2187th Information Systems Group, Mt. Limbra, Italy (Air Force Communications Command).
- Primary power generating plant (over 2,000 kilowatts)—5th Defense Space Communications Sq. Woomera AS (Space Command).

Minton Award—Sponsored by the Air Force Association, for the best article in the **Quarterly**. The winner is Maj. (lieutenant colonel selectee) Robert J. Bittner, chief, Plans and Operations Branch, Readiness Directorate, HQ AFESC, for, "A Flexible Approach," in the Summer issue.

Executive Director of AFA and former SAC Commander-in-chief, Gen. Russell E. Dougherty, presented the award.

tecnotes

A FIREFIGHTER'S PROTECTIVE ENSEMBLE is being developed which provides total fire and chemical protection in a chemical warfare (CW) environment. Components include: a sealed helmet which has voice-actuated communications and provides fire and chemical protection for the total known requirement; a lightweight undergarment that provides the wearer 12 hours of protection in a CW environment; and a Kevlar outer garment which provides 5 years of safe use. (HQ AFESC/RDC Mr. Walker, AUTOVON 970-6283)

A FILTERED AIR ADAPTER has been developed for the firefighters self-contained breathing apparatus. It will be available for purchase in mid-85. It provides 6 hours of filtered air in a CW environment. This interim device provides CW filtered air for firefighters until the helmet and rebreather system is available. (HQ AFESC/RDC, Mr. Walker, AUTOVON 970-6283)

MAGNESIUM/COMPOSITE METAL FIRE SUPPRESSANT — A fire-extinguishing agent being developed will effectively extinguish magnesium/composite metal fires which are burning vertically or horizontally. The agent functions by chemically reacting with the burning material to extinguish the fire. Agent availability is projected for 1987. (HQ AFESC/RDC, Mr. Walker, AUTOVON 970-6283)

HALON 2402 EVALUATION — Commercially available Halon 2402 is being evaluated for possible USAF use. Advantages of the agent are: it is highly effective as an extinguishing agent in an open environment; it can be stored as a liquid; it has greater throw range than existing Halons in use; and it mixes with fuel to provide reignition resistance. (HQ AFESC/RDC Mr. Walker, AUTOVON 970-6283)

GROUNDWATER MODEL — A new groundwater containment transport model has been developed which can be used in Installation Restoration Program (IRP) investigations. The new model, named Saturated-Unsaturated Transport (SUTRA), is a finite element, solute transport model developed by the U.S. Geological Survey under joint sponsorship by the Air Force. The unique concept of SUTRA revolves around its modular format. This format facilitates incorporation of such contaminant transport factors as absorption/desorption degradation and chemical reaction, without having to change the model itself. Potential uses for the model include predicting the extent and future migration of contamination, as well as assessing the efficiency of remedial action. (HQ AFESC/RDV, Lt. Heyse, AUTOVON 970-4628)

PHENOLIC PAINT STRIPPING WASTEWATER TREATMENT SYSTEM — A biological treatment pilot plant is being demonstrated at Hill AFB, Utah, on concentrated phenolic wastewater. Removal efficiencies are consistently 30-50 percent of phenol concentration from waste streams of 1,000 mg/1 phenol and 5 mg/l chromium. Pretreatment of phenolic wastewater with this system at the paint stripping facility will allow continued use of the highly effective phenolic strippers by producing acceptable environmental discharge concentrations. (HQ AFESC/RDV, Capt. Jeter, AUTOVON 970-4628)

MULTIPLE CRATER REPAIR TESTS using crushed stone/fiberglass mats were conducted Dec. 3 and 5 at Eglin AFB, Fla. The Prime BEEF team members were provided training at Eglin AFB during the previous week. Two teams, composing a single area group, repaired three craters in about 6 hours during the first test, and four craters in about 6 1/2 hours during the second test. The craters were explosively formed in concrete pavement, and ranged in repair diameter from 15 feet to 50 feet. Total time reductions of about 50 percent should be possible with additional training. (HQ AFESC/RDCR, Lt. Col. Wiedemeier, AUTOVON 970-6315)

A PARTIAL CRUSHED STONE CRATER REPAIR was prepared to simulate a crater which was half on and half off the Minimum Operating Strip (MOS). The entire crater was filled with ballast rock and crushed stone, but only the portion of the crater on the MOS was compacted and covered with a fiberglass mat. The compacted portion was then trafficked with 100 passes of an F-15 load cart. Next, the repair was excavated, reaccomplished, and trafficked with 38 passes of a C-141 load cart. The applied traffic patterns extended to the very edge of the fiberglass mat. No maintenance was required after either trafficking, although it was apparent that each repair did deteriorate more rapidly near the extreme edge of the compacted area. This test is now complete, and it is concluded that, for fighter and C-141 aircraft, compaction is not required beyond the limit of expected traffic. (HQ AFESC/RDCR, Maj. Pearson, AUTOVON 970-6307)

NIGHT CRATER REPAIR TEST — Lighting evaluation tests were conducted at Eglin Field 4. The effectiveness of a single Over-Lowe lighting unit with two tripod lights was evaluated around an exploded crater and an aggregate stockpile. No significant decrease in efficiency (compared to daylight) was observed during the actual night repair of an exploded crater. (HQ AFESC/RDCR, Capt. Walton, AUTOVON 970-6451)

COMPUTER CORNER

WIMS/SIMS Acquisition Status—The industry has received a request for proposal (RFP) on the Air Force Minicomputer Multi-user System. The RFP, including WIMS and SIMS, was released Nov. 29, 1984. Contractor proposals are due back in April. Industry has shown considerable interest in our acquisition. Contractor proposals will be evaluated during the April 1-August time frame. We expect contract award in October 1985 with first delivery expected in December 1985 or January 1986. (HQ AFESC/AD, Col. Aldinger, AUTOVON 970-6455)

WIMS Early Lease Program—There are currently 31 WIMS minicomputers in operation throughout AF Engineering and Services (22 systems including HQ USAF/LEE, SOAs, all MAJCOM/DEs, and nine base-level systems). The latest systems were installed at Robins AFB and Kirtland AFB. Misawa AB is scheduled to be the first overseas base-level WIMS installation. (HQ AFESC/AD, Capt. Clayton, AUTOVON 970-6457)

SIMS Prototype—Computer equipment was delivered and installed at Davis-Monthan AFB December 1984-January 1985. Furnishings management was the first software module implemented. Billeting, Mortuary Affairs, Prime RIBS, Linen Exchange, and Administration are being implemented. Automation of Food Service is now programmed for May 1985. (HQ AFESC/AD, Capt. Cox, AUTOVON 970-6205)

Communications Planning—A follow-up letter was sent to all MAJCOMs in January, 1985, stressing the importance of thorough comm planning prior to WIMS and SIMS implementation. Inputs to each Base Communications Electronics Plan should have been made and an AF Form 1071 (Local Comm Service Request) identifying comm line requirements for WIMS and SIMS should have been submitted by each BCE and Chief of Services. (HQ AFESC/AD, Capt. Clayton, AUTOVON 970-6547)

CEMAS—Successful testing of the Civil Engineering Materiel Acquisition System (CEMAS) was completed at Tinker AFB in December. The system continued to show material response times better than support systems now in use. Also, with CEMAS, management of the total CE inventory is possible because of the ability to automate bills of materials, document all transactions, and automatically issue residue assets when requirements are submitted. CEMAS will greatly increase responsiveness and will enable management to deter fraud, waste, and abuse. HQ USAF/LEE/LEY and RDC have now approved CEMAS as the standard support system for CE, with implementation to begin in FY 86. Interfaces between base supply and the new base contracting automated system (BCAS) are being worked. Additionally, training, documentation, implementation/conversion (I/C), and other program requirements are being supported through a dedicated Air Staff/MAJCOM/base working group concept. The Air Force Logistics Management Center (AFLMC) LGS has provided an innovative stockage/reorder program. The Data Systems Design Office (DSDO) will continue software enhancement and new development. Full Air Force implementation is scheduled to span 3 years, and will begin with the arrival of hardware scheduled for the Work Information Management System (WIMS) CEMAS will be implemented at Kirtland in early summer to test some of their Model Installation Program (MIP) innovations. (HQ AFESC/DEMG, Lt. Col. Wadlington, AUTOVON 970-3947)

ENVIRONMENT

National Geographic—In December 1984, the National Geographic Society Special Publications Division, in Washington, D.C., published a beautiful and informative 400-page book entitled, *Our Threatened Inheritance: Natural Treasure of the United States*.

Included in this impressive work is a section on the Southwest U.S. Sonoran Desert. A highlight of this particular section is a brief report on the successes the U.S. Air Force has had in maintaining the environmental integrity of the massive 2.7-million acre Luke Air Force Range, which covers much of the Sonoran Desert. Specifically noted is the innovative cooperative agreement developed by Luke AFB civil engineering with the University of Arizona natural resources specialists.

The volume is highly recommended for review by personnel interested in how the Air Force protects our environment. (HQ 832nd CSG, Luke AFB, Ariz., Lt. Col. Coullahan, AUTOVON 853-6135)

Environmental Technical Information System (ETIS) — Comprehensive Environmental Legislative Data System (CELDS) — The CELDS is a collection of abstracts from current federal and state environmental laws, regulations, and standards that was developed for use by non-lawyers to provide quick access to current controls on activities which may influence the environment, and to supply informative data for the environmental impact analysis process. In past years, there has been concern by CELDS users over the currentness of abstracts contained in the system. To help alleviate this concern, as each abstract is added, amended, or reviewed, the date is entered in parentheses. For example, an abstract with the effective date of 1-1-81 will now read "1-1-81 (reviewed by CELDS staff 8-1-84). "This

new field will let the user know the last time the abstract was reviewed and should alleviate all concerns over the currentness of the regulations contained in the system. Access to the system may be obtained by calling HQ AFESC/DEV. (HQ AFESC/DEV, Ms. Merritt, AUTOVON 970-6232)

Air Force Bird Hazard Conference—The Air Force Engineering and Services Center's Bird/Aircraft Strike Hazard (BASH) Team will host a Bird Hazard Conference at Vandenberg AFB, Calif., May 13-16, to discuss all aspects of BASH reduction at military installations. The conference will be open to any member of a base bird hazard working group, or anyone currently dealing with bird problems at a military flying installation. Travel orders will be required for billeting at Vandenberg AFB.

In the past, there have been several forums for discussing bird problems, such as the U.S. Fish and Wildlife Workshop on Wildlife Hazards to Aircraft, and the Federal Aviation Administration's Wildlife Hazards to Aircraft Conference and Training Workshop. Although military aspects of bird hazards were discussed at these workshops, there has not been a meeting to deal strictly with the unique considerations of military flying operations. The Vandenberg AFB conference will be divided into five sessions:

- The Bird Hazard Problem: Discussions will focus on why bird hazards exist and how to identify them. The worldwide problem will also be presented, including statistics and information from our overseas allies.
- Operations and In-Flight Hazards: Bird hazards unique to military pilots will be reviewed. Suggestions will be made on how to reduce these types of bird risks.
- Airfield Bird Control: An entire day will be spent on this important session, because over half of the total strikes incurred are in the airfield environment. Habitat modification, scaring techniques, avian diseases, and hangar problems will be examined in order to aid base personnel in reducing bird hazards.
- Increasing Resistance of Aircraft to Bird Strikes: By designing our aircraft to resist impacts from birds, we can reduce loss and injury. Several "experts" will present current and future design modifications which will aid in withstanding bird strikes.
- New Developments in the Bird Hazard Reduction Problem: What's in the future? The final session will include future methods of reducing bird strikes, such as the role of radar in bird detection.

(If there are any questions please contact the BASH Team at AUTOVON 970-6240/42/43.)

FIRE FIGHTING

Two Major Fires—There have been two major fires that represent food for thought.

- Building 3001, Tinker AFB, Okla., the headquarters for Oklahoma City Air Logistics Center, was reported on fire at 1146 on Nov. 12. Confined to the roof system, a total of 39 hours were required to bring it under control, plus an additional 55 hours before the last hot spot was extinguished. Suppressing the fire required the Tinker AFB fire department in addition to 23 other fire departments from surrounding communities, volunteers, and numerous federal, state and civilian agencies. The fire destroyed 650,000 square feet (15 acres) of the roof. An additional 162,250 square feet of the facility received smoke and water damage. Facility repair alone is approximately $48 million, not including the cost associated with lost production, cleanup, and the provision of temporary facilities.
- Building 262, Wright-Patterson AFB, Ohio, serves as the headquarters of the Air Force Logistics Command. The fire was reported at 1444 on Jan. 8. For the most part it was confined to the command section, which had been vacated for renovation. The fire was controlled 2 hours later and completely extinguished 6 hours later. Before control and extinguishment were achieved, 7,000 square feet received severe fire damage, and an additional 11,000 square feet received smoke damage. The Wright-Patterson AFB fire department along with six other departments from the surrounding community were involved in suppressing the fire. Preliminary facility repair estimate is $615,000.

In common to both these high-loss fires were USAF-managed construction projects, civilian contractors and failure to follow established procedures and standards.

At Tinker, although there were other problems, it was the unauthorized and unnecessary use of a cutting torch that resulted in the fire.

At Wright-Patterson, there were also other problems—the pressure to get a project completed by a certain date and not following the national electrical code that resulted in the fire.

Fire marshals and fire chiefs should take a close look at the chain of events that led to these fires and take measures to prevent recurrence. (HQ AFESC/DEF, CMSgt. Pike, AUTOVON 970-6153)

OPERATIONS AND MAINTENANCE

Industrial Water Treatment — Just a reminder that AFR 91-40, the new regulation that describes the improved Industrial Water Treatment (IWT) Program for the Air Force, was published Sept. 24. In support of the IWT Program, Pioneer Laboratory in Pensacola, Florida, was awarded a contract in November 1984 to serve as the Air Force Check-Analysis Laboratory. Pioneer Labs will send representative water samples of known composition to Air Force bases three times a year for confirmation testing; and, on request by the base, provide laboratory supplies for routine in-plant testing. (HQ AFESC/DEMM, Mr. Myers, AUTOVON 970-6358)

HVAC — A CEMIRT Team recently evaluated and balanced a HVAC system serving a major Air Force facility. They found dirty heating and cooling coils, worn pulleys and belts, dirty exhaust registers, 16 out of 27 exhaust fans not working, dirty air-handling unit sump tanks and sprayers, window induction units not working, and dirty filters. Also,

a previous contractor in the same facility found that 26 supply diffusers were left above a newly installed suspended ceiling, exhaust ducts had been left open, 25 pneumatic thermostats had been installed so that they would work in opposition to load requirements, and pneumatic control lines were left nonoperational. If base managers are of the opinion that they do not have similar problems, they have failed to look. These deficiencies do not require excessive training or equipment to resolve, as most are of such a low difficulty level that they can be accomplished by the use of overhires. Have you checked your HVAC lately? (HQ AFESC/DEMM, Mr. Wilson, AUTOVON 970-6361)

Static Grounds Testing — Air Force policy regarding the periodic testing of static ground points has been changed. The new standard may be found in AFM 85-16, Maintenance of Petroleum Systems, IMC 84-1. Civil Engineering will test all exterior static grounds by May 1, 1986. Those ground points which exceed 10,000 ohms resistance will be removed or replaced and retested. Marking and periodic testing will no longer be required. (HQ AFESC/DEMM, Mr. Fowler or Mr. Mumme, AUTOVON 970-6480 or 6357)

AV Programs—HQ AFESC/DEMG is developing two audiovisual programs entitled "Project IMAGE Overview" and the "The Strategic Plan Overview" which should be available through your local audiovisual library by the end of June. The Project IMAGE overview will be available as a 35mm slide/audiotape, approximately 15 minutes in length. Because Project IMAGE will have a major impact on base-level activities in the future, all personnel must be aware of its concepts. The Strategic Plan overview will be a videotape which explains the plan, how it works, who executes it, and as how it affects the Engineering and Services community. It is recommended viewing for all BCEs. (HQ AFESC/DEMG, Mrs. Ponshock, AUTOVON 970-6394)

Training—ATC Technical Training, MAJCOM, and HQ AFESC representatives met December 11-13 to begin the development of the new Prime BEEF NCO course. The course objective is for each student to comprehend the programs, plans, policies, and responsibilities associated with the management of civil engineering readiness. A dedicated instructor will become available in April 1985 to carry on the details of the course development. We are continually working with technical training to ensure this course gets high priority. (HQ AFESC/DEMG, SMSgt. Pinson, AUTOVON 970-6397)

Snow Equipment—Replacement and update of the Air Force snow removal fleet to reflect state-of-the-art equipment is being planned to start in FY 87. Replacement decisions were made at the 1984 workshop for vehicle and equipment managers at HQ AFESC, Tyndall AFB, Fla. An *ad hoc* committee was named at the conference to deal with snow removal equipment. It met at HQ SAC, Offutt AFB, Neb., in December, and determined the basis of issue for new items needed in the fleet. New multipurpose snow removal machines will feature snow blowers, ice cutters, reversible plows, and segmented plows. An 8-cubic-yard dump truck, standard CE issue, will have as attachments front and/or underbody plows. Additionally, future snow removal brooms shall be the front-mounted hydostatic type, in lieu of the former tow type. (HQ AFESC/DEMG, Mr. Munroe, AUTOVON 970-6400)

ENERGY

Energy Techdata Sheet, number 4-84, dated Sept. 1, on Shared Savings Programs, has been distributed Air Force-wide to MAJCOMs and bases. The techdata sheet explains shared savings programs and discusses how these programs have evolved over the past several years. Basically, it's a way to improve facility energy efficiency without having to invest your own resources — the contractor does, for a share of the resulting energy savings. Strongly recommend you become familiar with information in this techdata sheet and look for potential shared savings projects. It can help your base toward energy goals and reduce utility costs! (HQ AFESC/DEB, Mr. Beason, AUTOVON 970-6461)

Energy Conservation Devices—Specific energy conservation devices, especially those that have been shown to have short payback periods when installed on a retrofit basis, should be considered during the design process. Air destratification systems should be considered for all high bay areas that are heated. Heat recovery systems should be considered wherever large quantities of warm air or small quantities of higher temperature air, water, or similar substances are wasted. (HQ USAF/LEEEU, Mr. Wong, AUTOVON 297-4082)

CAREER CORNER

Promotions in Housing/Billeting—There are 23 GS-7/8 registrants working in Billeting and 240 in Family Housing. Since there are 60 GS-9 positions in Billeting, it is logical that most referrals for the GS-9 positions would be people working in Family Housing. Following this logic, an individual could receive promotion from Family Housing to Billeting and then receive another promotion back into Family Housing. When making selections for the GS-9, Billeting Manager, positions, the GS-7/8, Family Housing, candidate would have a better chance of selection if he/she had some billeting experience. We have talked about developmental training for the past 2 years but none has occurred between Family Housing and Billeting. Registrants, chiefs of Services and base civil engineers are encouraged to cooperate and provide developmental training by detailing employees from Family Housing to Billeting and *vice versa*. The 1173 series applies to both functions, and it is in everyone's best interest to consider such training—the opportunity is there. All we have to do is sacrifice a little more for the good of our promising employees and the overall Air Force requirement. (OCPO/MPKCE, Mr. Hogan, AUTOVON 487-6388/6843)

Are You Mobile?—As stated in the article above, there are 263 GS-7/8 registrants in the 1173 series. We recently had a requirement to furnish names for a GS-9, Billeting Manager, position. It would appear that several of these GS-7s or GS-8s would like a promotion to GS-9. Unfortunately, we had no names to refer—none of the 263 wanted the promotion opportunity. To progress in grade, more times than not, you have to be mobile. (OCPO/MPKE, Mr. Hogan, AUTOVON 487-6388/6843)

Another Reason to Register in ESCCMP—Picture yourself as a GS-12, you have no intention of moving from your present location, the only job you can go to at the base is a GS-14 position (out of reach); you want no training, and therefore you do not register in ESCCMP. The GS-14 position becomes vacant, they downgrade it to a GS-13, and request a certificate from the ESCCMP. The certificate is issued, and you have no chance for the position. But, if you had followed our continued recommendations to register for every base you desire, including your own base, at the minimum grade you would accept, you would have been referred for consideration. The same thing can occur regardless of your current grade. Be ready—register in ESCCMP for your benefit. (OCPO/MPKCE, Mr. Hogan, AUTOVON 487-6843/6388)

ESCCMP—What Is It? Everyone in Engineering and Services knows what Engineering and Services Civilian Career Management Program (ESCCMP) is—it's our civilian career program. Well, supervisors, everyone does not know what ESCCMP is. We continually gain new people into our Engineering and Services community and they won't know what ESCCMP is until someone tells them or they read about it. Let's let our new civilians know what ESCCMP is so they too can be more knowledgable and more effectively plan their Air Force career. (OCPO/MPKCE, Mr. Hogan, AUTOVON 487-6843/6388)

Reservists and Emergency-Essential (E-E) Civilian Positions—Civilian employees do not have to resign from the Air Force Reserve if they accept an E-E position or are assigned to a position designated as "key." They can transfer to the Nonaffiliated Reserve Section (NARS/ND) and still participate for point credit towards retirement. The advantage is that the employee retains reserve retirement rights and can return to active status if future civilian job changes allow it. The disadvantage is that the reserve training performed is in a nonpay, points-only status. For additional information, contact Tom Ridenour (ARPC/DS), AUTOVON 926-4908, or Bobby Wyatt (ARPC/DRMP), AUTOVON 926-4965. (OCPO/MPKCE, Mr. Lynch, AUTOVON 487-6388/6843)

CONSTRUCTION

Programming, Design and Construction (PDC) System—The Programming, Design and Construction System, developed as a replacement for DEACONS, completed its first full year of use in January 1984. During the year, many changes and enhancements were made, and one major redesign was completed. The latest version, released in February, concluded a massive effort to include the changes requested by the users. PDC can now handle all of the information management requirements for Air Force construction projects at the Air Staff, major commands, and the AFRCEs.

We are beginning the conversion process of preparing PDC for the move to the new WIMS computers and in the process we will be making PDC available for use at base level. This will provide an integrated program and project information management system for all levels of engineering for all types of projects. In addition, it will provide for the movement of information between the levels of command. The bases will, for the first time, have real-time access to the programming, design and construction data for all of their projects, including current copies of related DD Forms 1391 as edited by the Air Staff, and the status of their projects in the programs submitted to Congress.

As we expand the users of PDC to include the base level, we look forward to input from the new users to continue the evolution of PDC. From the beginning, the direction of PDC has been determined by the functional users and it has been very successful. Our intention is to continue this process and allow PDC to continue to expand and improve to become the program and project management system we need to manage today's complex and fast moving AF construction program. (HQ USAF/LEEMI, Capt. Kohlhaas, AUTOVON 225-6951)

EM Shielding—HQ USAF/LEE recently appointed HQ Electronic Security Command (DE) the Air Force focal point for matters pertaining to electromagnetic shielding design and construction. Requests for review and recommendations on special shielding designs and construction methods should be submitted to HQ ESC/DEE through the MAJCOM and/or the AFRCE. (HQ ESC/DE, Mr. Hoffman, AUTOVON 945-2795)

IRP and MCP—Recent delays in MCP bid openings were caused by projects being sited and designed on Phase I IRP sites. To preclude future instances, each base in ATC is being told it must plot all of its Phase I IRP sites on their Tab F-1, Facilities Development Plan. HQ USAF/LEEV and LEEE concur. Advise your MAJCOM where conflicts occur. (HQ ATC/DE, Capt. Smith, AUTOVON 487-6326/6327)

HOUSING

Interest-Free Housing Loan Programs — Active duty Air Force personnel at Langley AFB are showing keen interest in the two interest-free loan programs established by the Air Force Aid Society in July 1983. Designed to ease the financial burden of moving and establishing a new residence at the time of reassignment, these programs are known as the Move Assistance Program (MAP) and the Housing Assistance Program (HAP). Langley was one of the test

bases selected to initiate these two programs. Originally planned to run through June 1984, these programs have now been extended indefinitely, with the number of bases involved almost double the original number participating in this test. Through the first 9 months of 1984, Langley led all TAC bases in participation in the Housing Assistance Program with 49 cases. These are loans to cover the closing costs incurred with the purchase of housing in one's newly assigned area. In addition, there were 15 Moving Assistance Program cases involving moving expenses and other related costs, such as advance payment of rent, security and utility deposits, and the purchase of essential household appliances. Housing Assistance loans to cover closing costs can be made for up to $5,000 but cannot exceed the closing costs. They may not be used to cover down payments or mortgage payments. (1st Combat Support Group, Lt. Col. Courter, AUTOVON 432-2025)

FOOD SERVICE

New Harvest Eagle (NHE) Kitchen — An NHE kitchen has been developed by Natick Research and Development Center to meet an Air Force need for a more efficient field feeding system. The kitchen is a single complex of three interconnecting shelters designed to support 1,100 persons with three hot "A" or "B" ration meals daily. The food service equipment is standard Harvest Eagle with the addition of some commercial and newly developed items. The kitchen was used at Vandenberg AFB during Gallant Eagle 84 to validate the feeding capacity and equipment capabilities. The kitchen proved to be very reliable (no equipment problems were encountered) and met its rated feeding capacity. Thirty-three NHE kitchens are being procured (32 for CENTAF and one for Eglin Prime RIBS training). Estimated cost per kitchen (plus 60 days supplies) is $344,000. Components of the kitchen are being delivered to Albany, Ga. (in accordance with an Inter-Service Support Agreement with the Marine Corps Logistics) for interim storage and assembly. Retrofit of the 12 existing Harvest Eagle kitchens held by USAFE, PACAF, and TAC has been deferred until FY 86 and 87. (HQ AFESC/DEHR, Mr. Daugherty, AUTOVON 970-6198)

Mobile Kitchen Trailer (MKT 82) — A new mobile kitchen trailer will be added to the Air Force inventory commencing FY 86. The MKT is an expandable, self-contained, trailer-mounted field food service system designed to feed 250 persons per meal. The purpose of the MKT is for feeding small populations at deployment sites and for support of Prime RIBS, home-station training, local exercises, ORIs, MEIs, etc. It is intended for mobile feeding, and not for sustained periods of use. The MKT uses nonperishable "B" rations or tray pack meals. No dining area or refrigeration is provided. One hundred-seventy-six MKTs are being procured, 32 for WRM and 144 for the MAJCOMs. (HQ AFESC/DEHR, Mr. Daugherty, AUTOVON 970-6198)

GLCM Field Food Service System (FFSS) — A field food service system for support of GLCM personnel during dispersal has been developed through Natick Research and Development Center (NRDC). The FFSS is designed to provide one hot tray pack meal a day for 50-100 persons; operate without assigned food service personnel; use only nonperishable foods; be highly mobile with rapid setup/tear down; operate on diesel fuel and have a low signature from heat, smoke, or noise. A feasibility prototype FFSS was successfully tested during dispersal training at Ft. Lewis, Wash., and Ft. Huachuca, Ariz., in 1983. One hot tray pack meal and two meals, ready-to-eat (MREs), provided the daily ration. The system is pallet-mounted and transported on a standard five-ton cargo truck. It contains a tray pack heater, serving line, hot water dispenser, and storage space for food and supplies. A diesel fired electrical generator and water heater provide power heat for the system. The water heater supports a portable shower unit when the food system is not in use. Three prototype units have been fabricated and have been given to USAFE to meet initial GLCM needs. (HQ AFESC/DEHR, Mr. Daugherty, AUTOVON 970-6198)

Operational Rations — An adaptation of the meal, ready-to-eat (MRE), the meal, flight-feeding (MFF) will be phased in and used as the sole packaged operational ration for the Air Force commencing with the CY 86 buy. The MFF will contain many of the same components used in the MRE. However, meals which are not suitable for aircrew consumption (containing gaseous components or dehydrated entree items) have been deleted from the MFF. Initially, a variety of six menus will be included in the MFF. An increase in menu variety for FY 87 buys is anticipated due to development work being accomplished at NRDC. Matches have been excluded from the accessory packets in the MFF so the ration can also be stored in weapon storage areas. Purpose of adopting the MFF for Air Force is to eliminate the need to stock more than one operational ration and improve USAF control over quality and content of menu packets. (HQ AFESC/DEHF, Mr. Hoffman, AUTOVON 970-6221)

Hennessy Award MAJCOM Nominees—The Hennessy Award nominees for the 1985 competition in the single facility category are Shemya AFB, Alaska, (AAC); Goodfellow AFB, Texas, (ATC); McClellan AFB, Calif., (AFLC); Ft. Meade, Md., (ESC); Hickam AFB, Hawaii (PACAF); Castle AFB, Calif., (SAC); Cheyenne Mt., Colo., (SPACECMD); Bergstrom AFB, Texas (TAC); USAF Academy, Colo., (USAFA), and RAF Fairford, UK (USAFE). Nominees in the multiple-facility category are: Chanute AFB, Ill., (ATC); Eglin AFB, Fla. (AFSC); Maxwell AFB, Ala., (AU); Kirtland AFB, N.M. (MAC); Ellsworth AFB, S.D. (SAC); George AFB, Calif. (TAC), and Sembach AB, Germany (USAFE). Winners will be announced in April and awards will be presented at the NRA convention May 17-18. (HQ AFESC/DEHFO, Mr. Dylla, AUTOVON 970-6195)

Revision of AFR 146-19—The revision of AFR 146-19 was published Jan. 8, and is available through publication channels. (HQ AFESC/DEHFO, Mr. Dylla, AUTOVON 970-6195)

BILLETING

Billeting Telephone Directory—Air Force Pamphlet 90-18, Worldwide Billeting Reservation Telephone Directory, is now available through local publication distribution offices. The pamphlet would make it easier for travelers to obtain confirmed reservations well in advance of their arrival at TDY locations. Copies of the new pamphlet should be available in your organization and the base billeting office. (HQ AFESC/DEHS, Lt. Col. McSwain, AUTOVON 970-6177)

Third-Party Financing (TPF)—The Technical Review Group concerned with TPF met Jan. 8-9 at HQ AFESC, Tyndall AFB to qualify proposals on contract to conduct economic analyses, assess/solve legal and policy implications, and develop a request for proposal (RFP) for third-party construction of a VOQ/conference facility at Bolling and Wright-Patterson AFBs. URS Company of Santa Barbara, Calif., was awarded the contract on Jan. 15. (HQ AFESC/DEHS, Lt. Col. McSwain, AUTOVON 970-6177)

New Services Officer Course—HQ AFESC hosted a workshop in March 1984 that determined the need for a new Services Staff Officer Course (G30AR6211-001). Many of the same officers attending this workshop met at the Lowry Technical Training Center Jan. 7-18 to continue course development. They were: Lt. Col. Billy Abney (ATC), Lt. Col. Wes Ardis (AAC), Lt. Col. Gary Bain (LTTC), Lt. Col. Nate Pack (AFESC), Lt. Col. Dan Schwenk (USAFE), Lt. Col. Norm Shady (PACAF), Lt. Col. Ron Stump (TAC), Lt. Col. Dan Tatum (MAC), Maj. Jim Pallas (SAC), Capt. Jim Abbruscato (LTTC) and Capt. Gail Waller (AFSC).

The course is scheduled to begin in July 1985 and is 80 academic hours (10 days). Lessons include Services Executive Management, Readiness, Salesmanship, Facilities, Career Development, Resources, Management Indicators, and Mortuary Affairs. More information later. (HQ AFESC/DEHR Lt. Col. Pack, AUTOVON 970-6239)

PROGRAMMING

Facility Project Obligations — To attack both the perception and the risk of excessive and wasteful year-end spending, MAJCOMs are to plan on obligating no more than one-third of their facility project programs (RPMA and Family Housing) after June 30 of each fiscal year. The obligation plan must consider current availability, as well as historical fund migration to the facility project program. To assist in the timely execution, HQ USAF is issuing funding authority as soon as funds become available. (HQ USAF/LEEPO, Maj. Junkin, AUTOVON 225-7774)

QUARTERLY

Circulation—Many units at field level are not receiving sufficient copies of the **Quarterly** to assure readers an adequate opportunity to read the periodical.

- AF 764a—For most units, the AF 764a is the required form needed to get the **Quarterly** circulation request updated, or through which to initiate new requirements. The **Quarterly** is a functional magazine, which means it is distributed to units within the functional area covered by the periodical.
- Basewide Distribution Lists—Most PDOs maintain lists of qualified recipients for the publications that they handle. When the **Quarterly** comes in, the list is consulted, and each unit having a requirement gets its fair share. It pays to check the PDO lists periodically! If your unit is not on it, it may well explain why you're not getting the magazines.
- Internal Handling System—PDOs rarely handle finite distribution within units. To assure that people throughout E&S get the **Quarterly**, a publications monitor should be named. That person should know how many copies each branch and subordinate organization should receive.
- Paid Subscription—The functional distribution system is for units. Reader ratios vary from 1:5 to 1:14. This makes it a must to allow each person an opportunity to read the **Quarterly** when it arrives. Taking new copies home makes the ratio of readers to magazines even worse. Paid subscription is recommended for people who wish to receive the **Quarterly** at home. Subscription requests should be sent to the Superintendent of Documents, Government Printing Office, Washington, D.C., 20402.

Make service your profession

Then and now

At the worldwide Engineering and Services conference at Homestead AFB, Fla., in December, 1975, Gen. Russell E. Dougherty, then Commander-in-chief, Strategic Air Command, delivered the keynote speech. It was printed in the summer issue of the Quarterly. Providing a cause and rationale for the merger between Engineering and Services, the speech had a unifying effect. That General Dougherty would have been invited is not at all unlikely. Maj. Gen. Robert C. Thompson, then Director, Engineering and Services, HQ USAF, is widely credited with being the force behind the merger. General Thompson had served with General Dougherty in SAC, before General Thompson went to U.S. Air Force in Europe, where the first major command merger took place. General Dougherty was interviewed in the new Air Force Association headquarters in Rosslyn on the outskirts of Washington. Now retired, he is executive director of the AFA. He still vividly recalls the speech.

Quotations from General Dougherty's address, 1975.

by H. Perry Sullivan Jr.

ESQ: I'm very interested in the reaction your speech before the first Engineering and Services worldwide conference may have had among those attending, because it was truly an outstanding speech, and people still remember it.

Gen. Dougherty: Well, I think the charitable word to use is "mixed." That was the first time we had gotten together in the new incarnation with Services. So, I remember telling the engineers out there that I was a colonel before I knew who the base engineer was. If he had been the services officer, I would have known him from day one.

ESQ: You apparently knew Gen. Bob Thompson well.

Gen. Dougherty: Bob and I had served together at 2nd Air Force, when I was commander and he was the 2nd AF engineer. Bob Thompson was a unique fellow. And, probably the personality of Bob Thompson had a lot to do with making it happen. He worked closely with me, and he worked closely with General David Jones. Dave was a people man. A lot of people don't recognize that, but he really was a people man who made unusual things happen. Let's see. How can I put this? He walked where a lot of uniformed angels feared to tread. But, he did things which, in retrospect, were good, but in the foresight of the times brought the reaction, "My God, why is he doing that?" But, I am sure that a lot of people said that about the merger of Engineering and Services when he instituted that. He may have done a little pilot modeling of that in Europe when he was Commander-in-chief of the United States Air Forces in Europe.

ESQ: I gather that somewhere around that point in time came the motivation to merge Engineering and Services, at least at the staff level. Do you have any idea why?

Gen. Dougherty: I have an idea, but I don't know if it's right, because a lot of people had ideas about those things at that time. You just had some of the best talent in the Air Force in Engineering. And let me be candid, you had some of the least talent in Services because we were using too many additional duty people. And as a result, we had a poor division of wealth, know-how, and experience. And I think that the marriage—although I am sure that it had some rough spots—has really produced some great benefits for the Air Force. At least that's my observation. Duke Wright, who is today's Director of Engineering and Services, is the epitome' of all that we wanted to achieve. So here's Duke Wright well known throughout the Air Force, respected throughout the Air Force—not just for his engineering talent and skill—but because he's providing services of the first order for half a million people. And, I think it's been a good marriage.

ESQ: How did we get in a position of so little priority being given to Engineering and Services?

Gen. Dougherty: My first experience with this was right after the Air Force became the Air Force. We did some things right, and some with lots of skill, cunning and daring and determination; and we had lots of great gurus who led us down conceptual roads, and things like that. But they forgot about judge advocates and post engineers. Right after the Air Force became separate, we looked around, and there weren't

any good judge advocates aboard, and there weren't any post engineers. They had all gone with the Army, and we said "What have we done to ourselves?" I was out on Guam with the 19th Bomb Group at North Field, which is now Andersen. We shook the bush real hard and Tom Abney fell out. Right after that he left. We shook the bush real hard again and I fell out, and became the judge advocate. And one of my roommates, Julius Fiebig, became the post engineer, because he had an engineering degree from Illinois. And that's the way we sort of grew. All these tremendous things that have to do with the care and feeding of people, and solving people's problems just really sort of fell by the wayside. The Army had always done all of those things for us. We grew fast, because we had to—these are things you cannot do without. Services was not even thought of. That was incidental. We always accepted that as part of the fabric of base life and we didn't recognize it until it was gone, and then we just assigned additional duty to everybody, from being the commissary officer to the responsibility for the visiting officers' quarters, and the transient airmen's quarters—we just sort of "additional dutied" those things. To tell you the truth they were performed just like they were being performed by additional duty. It was expendable. And we didn't do it very well. But, we learned a lot in those first few years about what we had accepted as given during the time that the Air Force was part of the Army and was being supported by Army engineers and Army base complements. I think that this was a part of our maturing process. Twenty years later—or 25 years later—we regularized some things that had to be done.

ESQ: In the speech you gave before that first Engineering and Services worldwide conference, you said that earlier in your career as a judge advocate you didn't want to be confined to a shoebox, you wanted to be part of the total mission.

Gen. Dougherty: I wanted to be a part of the action; I wanted to be house counsel. There is a difference in sitting back—you know—in some sort of confined judicial aura and being out there on the firing line, where the action is, the decisions are being made, and the problems are being solved. That's an expression that meant something to me—I don't know if it meant anything to anybody else. But, I didn't want to sit in judgement on things, I wanted to be out in the middle of doing things. To me, house counsel is the greatest challenge for a lawyer because you take some of the problems of management and administration, legitimacy and accuracy, and compliance and non-compliance, and the problems of people—and you get to these issues before they become problems. You begin to work on solutions before the commander even knows that he has a problem. And Engineering and Services can do that. I remember how enthusiastic I got about the self-help program, and the fixit shops and things like that. We made it possible for people to do things when they didn't have the manpower and the organizational strength to do it. Simple things. You showed them how, you gave them the tools and the bits and pieces, and said, "Go do it. Then, write down what you've done on a slip of paper and let me know, and I'll put it in the records." We did that first at Vandenberg. In SAC, it seemed to go very well. I don't know whether we're still doing that or not. Maybe we've got enough people now to do that.

ESQ: We're still doing that. It is still a tremendous asset.

Gen. Dougherty: It really is. Little things. Painting, fixing, tweaking and tuning—it's amazing how much time and talent there is that can be devoted to fixing a leaky johnny. But, if you have somebody who knows what to do, you don't need to dispatch an expensive engineering team to fix it.

ESQ: One of the challenges still facing people in Engineering and Services is over their wartime role. Every uniformed Engineering and Services person has a wartime role commitment somewhere—probably overseas—if they are not part of the CONUS sustaining force. In your role as Executive Director of the Air Force Association, do you think that the time has come to create a greater national awareness of what we face as a wartime challenge?

Gen. Dougherty: I guess there is no more difficult thing to do in peacetime than to think about wartime. We do think of it often, because it's on the front pages of our papers with articles about major weapon systems—it percolates all over town. But, the things that you need in war oftentimes are quite different from the things that you need in peace, where you're trying to create a community environment. That community changes drastically in wartime. I don't know if there is a fix to that. I think that is a challenge to the profession. Every time that we have had a crisis recently I have noticed that every pundit and columnist and journalist in the country suddenly becomes an operations officer. They all begin to design operations, and tactics. Then I look at the professional military and they've all become logisticians. And that's the way I guess it has to be. Because every one of them is trying to figure out how in the world you are going to fight a war—how you are going to provide it, supply it, resupply it and, equip it. You sort of turn to the columnist in the papers for grand strategic designs, and the conduct of the campaign. I was in Tokyo when the Korean war started, and instantly, that whole headquarters sort of became a group of logisticians trying to pull together the peacetime fabric we were wearing and make a wartime garment. The transition is difficult for engineers who are doing all the things you have to do in peacetime to keep things going, and then have to completely shift gears and get into the requirements of runway repair, the removal of unexploded ordnance, and the repair of traumatic damages to our bases from bombing attacks. You know, it's the toughest job you've got to do. If we weren't needed for

"...it will serve us well to get the engineers to come out of that professional 'box' and to meet the people on their bases—to close the loop of building things and using what you've built. Not that you haven't done well; not that you haven't worked hard...but I think you've just begun to work."

"Taking a page out of SAC's book; just as 'Peace Is Our Profession,' how about 'Service Is Your Profession.' "

that, you wouldn't need a military. But, we don't think enough about the reason we exist. The *raison d'etre* for the military forces is to fight. But, the people of the United States are sort of a pacific people—you know, we only fight when the guy in front of us in traffic won't move when the light turns green. And, then we turn into a demon! But, left alone and unspurred, we are a pacific people. It's very difficult to get people to focus on the fact that if you're going to deter conflict you're going to have to be prepared to fight. The *sine qua non* of deterrence is the preparation to fight. I guess that's the military role, and we do it in a democratic society that is also an antimilitary society. We try to make people focus on the need for things before they need it. In Europe, it was particularly tough. I remember what the chairman of one of the congressional military committees said one time when he was making his annual presentation on deterrence. He said: "Trying to convince you gentlemen of the requirements for our military in Europe is like trying to convince the town council that it needs a new fire engine when it hasn't had a fire in 35 years." That is tough. Our profession needs unique skills to get people to focus on things they don't want to think about and to provide things that they don't want to provide; and to put resources into the things we're going to put in supply bins, supply shelves, and in ammunition bunkers. People don't like to do that. They're strapped. So, they don't like to spend resources for things that they aren't immediately going to need. But everytime we have failed to learn the lesson, something has come up and bitten us. It's a most unique nation that's prepared for war. And I would say that it's a most unique Engineering and Services that's prepared for war all the time. The late Gen. Lauris Norstaad had a philosophy that I didn't understand at first, but later understood. People were always hammering on him to develop contingency plans for everything. Finally, in exasperation he said, "You don't understand. A peacetime military develops a plan for handling of contingencies, and not just an endless series of contingency plans." So, I guess that the Engineering and Services folks must have a very flexible comprehensive plan for handling contingencies. Because if they dissipate all of their energy developing contingency plans, sure as the Lord made little green apples, the contingency won't look like that. So, you've got to be flexible enough to handle it.

ESQ: How do you feel about the current emphasis within the Air Force toward a more warrior-like mind set?

Gen. Dougherty: Well, I think that Project Warrior is exactly what I'm talking about. Project Warrior is many things to many people. To me, Project Warrior has its legitimacy in getting people to focus on the fact that a nation that has something coveted by others always had best be on guard. And, the people that it hires to be on guard have to be warriors and have to be trained to fight. If they aren't, the time may have gone by when we can rapidly train, mobilize, provide and equip—we have to be in advance. Our uniformed services are the nation's warriors. You can't say, "No. They're really not. They're really peace-loving kids, and they don't need those guns; we'll send them over there and we won't send ammunition." You know, that is ridiculous. That's not why we have a military force. And I don't know why we sometimes feel so ashamed because we must have the capability, must be equipped, and must be ready to fight in the total environment of conflicts of all kinds—very diverse potential conflicts because of the nature of our world leadership. You know we have thousands of different tasks. People like to focus on one. They say, why do we need to be able to fight when our role is deterrence. We just want to deter. We don't want to fight. It's just ridiculous. You sure can't deter without exhibiting the capability to fight. Also, I think that part of Project Warrior is to try to restore the dignity to people in uniform that kind of got knocked out of them from the Vietnam years—the years when we took a real beating. The military took a bad lick for the conduct of what became a very unpopular war. It wasn't the military's fault. By and large, I think we did everything exceptionally well. What we did under the penalty of law was to put tens of thousands of young men in position of extreme hazard and required them to risk everything that they had. The country didn't exhibit its willingness to share their risks. The Secretary of Defense said it very well the other day at the National Press Club when he outlined the circumstances when the military of this nation should be committed to combat. He said we should not commit our young until the nation is committed. If you do this without commitment, then you are starting down the Vietnamese road again. If you do it for very long, you're going to tear the country apart, and destroy the morale of the military. The morale of the military is a very critical thing because the military is hazarding itself for a nation that needs protecting, and they must know the nation is in there with them. And if the nation is off doing something else, leaving the dirty work for the military, it comes back to bite you, just like it did in Vietnam. Project Warrior should also be designed to get the nation to recognize the role of its warriors, as well as getting the warriors to recognize their obligation to do the job that they are hired to do. And if they don't do it very well, in relative sense, then they'll be done in. France is a good illustration. In 1939 and 1940, France had the largest military establishment in Europe. They had more under arms, more equipment; and deployed and trained more NCOs and officers, but they were done in by a smaller military force with a new tactic, and an *elan*, and an edge on technology that just leapfrogged opposing forces and made the size and scope of the military irrelevant. We didn't see France conquered in the classic sense. We saw France defeated from within. And they gave up. They had to. You didn't see Paris shot up or the Loire Valley invaded. No. You saw the enemy march down intact from having just destroyed the few defenses around the periphery. The French couldn't handle it because their warriors had not seriously accepted the requirement to be relative to the tactics at hand.

ESQ: You've seen a tremendous amount of emphasis on the quality of the force structure of the Air Force. How do you feel about the quality of the people we have today?

Gen. Dougherty: Well, it's sort of popular to say, "They're the best we ever had." They're the best educated, the best paid, best fed, and probably the best prepared. They are more urbane and more knowledgeable. Their morale in time of war, I think, depends on the people. I think the potential is there for a military that truly is better than anything that we've ever fielded. But, I worry about the all-volunteer nature of the force. I know the political expediency that made an all voluntary force necessary, but I don't know that I agree with it. I think that it's another indication of a nation that wants to be a spectator in its defense rather than a participant. I think that I admire those nations that have voluntary national service, and I wish our nation did. I wish our nation had voluntary service that knew no exceptions because exceptions rot it from the inside out. I don't necessarily mean military service. I don't know what the figures are today but probably the military requirement for young men and young women is one out of five. So, you can't put them all in the military, or you would have a militaristic state. But, I wish there was a commitment to the nation through its voluntary services, through its help to the aged and infirm; policing our nation—policing its streets and making it a safe place. I think there's a tremendous role for a dynamic service impetus in this country. And, we may be about psychologically ready for something like that. We ran an article in **Air Force** magazine last month by a member of the German Bundestag who talked about universal service in Germany. He said, no, they don't spend as much of their gross national product on military preparations as we do, but they have a national commitment that transcends just the spending of money. They have a universal military service requirement. It's a demonstration of determination and guts. And the fact that we don't have it is viewed by a lot of thoughtful people around the world as being typically American, buy your way out of trouble—you know—hire somebody to do it for you. And, I think that it's a bad image. Here we are, good brother to the western world and a leader in so many things. We are providing a quality force through all of the objective measurements, but I don't know if that force is the best yet or not. We are continuing to drift toward a force that has the educational qualifications. But, particularly with regard to the Marines and Army—not so much the Air Force and the Navy—it is a force of the underprivileged and impoverished. The military of our nation, if they are to represent our nation, ought to be a cross section. And the only way you can do that is with national service. Now, I have dealt with this very heavily. I don't know if the question was leading to that or not. In my opening statement, it would be easy to say, "We've got the greatest military we've ever seen." And it is good. I'm around the fighter pilots a lot. Their technical ability absolutely boggles the mind. And their equipment is just so much more advanced that it was 30 years ago. It is just like coming from the Wright B-Flyer or the Douglas "around the world cruiser" to the space age. Yet, how can we as a nation ask those talented young men and women in SAC to maintain a fleet of B-52s as a firstline long-range combat aircraft. It is absolutely inconceivable to me. It's a disgrace that the nation hasn't equipped its global military force with topflight equipment. Now, we're starting down the road with the B-1 years late and we're arguing over whether to buy 100 or more. It's ridiculous that we ask our firstline military in the Strategic Air Command to fly aircraft older than anyone has flown commercially for 10 years. We wouldn't set foot in something like that. It's a good machine, and it gets great care and attention, but it's 20 years old or older. And that's inconceivable. We've corrected that in some instances. I think that the capability of our people is right there. The military needs a commitment of the nation that is never given in enough meaningful ways. The morale of our people is fine. But, it hasn't been tested.

ESQ: How do you feel about the "flight line productivity equation" of Gen. Wilbur Creech, in which everything on a given base contributes to creating more sorties. And that involves maintaining the base, maintaining the shops, maintaining the planes, and caring for people. How do you feel about this method?

Gen. Dougherty: I think that is a good measure. But, it doesn't exist in a vacuum. More sorties of what? More sorties of first line, modern fighters, well-equipped with good avionics and offensive and defensive weapons—then if you get more sorties, you've got something. But, if it's more sorties of horses and buggies you haven't got much deterrent capability. So, more sorties is a good measure of productivity if you've got something meaningful to sortie with. Yep, that's a good measurement. I can't disagree with that. The philosophy of SAC during all the time I grew up with them was to fly every mission as if it were a wartime mission. And that still exists to a degree. But, sortie measurement is good because if you have an inadequate size force structure, then you need to turn it around to get more than what you've got invested in it. I guess you could call it a "force stretcher," or a "force expander." And, TAC has done wonders in this

"...how wonderful to have people-oriented engineers in a mission that is so intensely people-oriented, to have mission and people-oriented doctors, lawyers, administrators. Mission and people-oriented officers in our service will insure our future. We have a great opportunity before us today. I think it has taken 27 years to begin to put things into perspective...and we're off and running!"

area. They have demonstrated that the old conventional idea that each airplane flew one sortie per day was grossly inadequate. Of course, we knew this in wartime. In wartime, we turned airplanes around, and we turned crews around. And, you can do it again. But, you've got to practice it. And Creech was practicing it. And, before him Dixon was practicing it. And I am sure Bennie Davis is doing that in SAC. But, that does stress the whole base. It stresses Engineering and Services and Logistics. LeMay used to have a succinct way of expressing it. "You've got to fly it, wear it out and break it so you can learn how to fix it. If you don't know how to fix it, you're not ready." I think TAC has come a long way. It is a real professional outfit. It is a good-looking, healthy command; bases are in good shape and well-cared for; which goes back to another behind the lines thing that gets lost in the clutter a lot of times. We call that operations and maintenance—base repair and utilities. We call them "below the zone" expenses—they're below the line and usually below the cutoff when people start saving. But, that's penny wise and pound foolish. Too many times, people focus on priorities. I think that priorities are a very dangerous thing in the military. You do some things that are, by definition, more important than others. But, even important things don't happen if some of the less important areas aren't capable. I remember a joke that we used to have in my squadron—when I was an armament and electronics squadron commander. We maintained the bombing equipment, the fusing of the weapons, and the radios—all of those are essential. You know, you don't takeoff if your radio doesn't work, if your bombs aren't loaded and properly fused; and you can't bomb if your cross hairs don't jibe with your radar set. But, then we took it on to an absolute absurdity—you aren't going anywhere if the guy doesn't pull the chocks. So, you gotta have a chock puller. Now, on a priority list, the chock pullers may be very low. But, without the chock pullers, the airplane is not going anywhere. So, watch priorities. They can get you in deep trouble. You bring on a base with great operational capability, but if you've got lousy housing and a lousy community for your people, they're unhappy and the morale is low. Then you haven't got a healthy unit. It happened up at one of our northern tier bases more than 15-20 years ago. You just couldn't get any money for the people requirement. You had a good runway, snow removal, and alert facility—but, you couldn't take care of the people. So, you get a decay in morale. Now, you can have the best facilities in the world, but if morale is down you're going to have a lousy unit. The Congress has got to be farsighted and they've got to help because these things have ways of lining up as political footballs—trading tools. And you can't make a case for "absolutely essential" for a base child care center. Yet, in today's environment if you don't have a child care center where you can leave your kid, you're not going to feel very good going down to work on generating sorties. You can grind out a lot of sorties, but only after you've found a place to leave your children. And, more than one-fifth of the families in the Air Force are single-parent families. So, these things might be low on priorities but they are important in the whole scheme of things.

ESQ: Do you feel that the Air Force is fully addressing that now?

Gen. Dougherty: Well, I think that the Air Force is trying, but they're constantly being forced into a chop list—constantly being forced to rack things up in priorities. How many times have you heard, "Is it absolutely essential?" There's nothing that you can focus on singly in the military, and say that it is absolutely essential, except possibly people; and then you can argue about who among your people are absolutely essential. That to me is a ridiculous question. You have to find out all of the things that have to happen to make things go well. And then *that* is what is absolutely essential—all of the things you need. The Congressional mood that I see building is to keep the personnel strength from growing. If that comes to the point of absurdity, then we're going to have to continue to look at how we can shift missions away from uniformed people in order to continue to do the things that we're doing. For instance, we've just introduced the ground-launched cruise missiles in Europe with no increase in people. That's a big

"If we aren't sensitive to doing things for people, we can get the kind of complex that implies: 'I've got a neat, full supply bin over here and I've got to keep it neat and full...so I cannot afford to issue any of it.' "

mission, big people's requirements, all the way from food service to maintenance support—all of the things that go with handling a major new mission with no people. They said, "Take it out of your hide." You can only do that so long. And then there isn't any more hide or, you've got all skin and no sausage. That seems to be the way it's going. And, Congress is the final arbiter of this. A lot of people forget—they think that the Armed Forces lay things on and that the Department of Defense and the President approve them—but, that's just the first echelon. You've got to get Congress on board. The clearcut Constitutional mandate is for Congress to control the care, provision and maintenance of the military. It is often overlooked. I used to think that Harry Truman's little sign, "The buck stops here," was right. The buck stops over in the Congress. And, if they cut this off, and expand that, or don't provide for this; or require this and and don't fund that—then you're going to have an unbalanced military. And the only way I know of now to meet this challenge is to download missions from our uniformed people. And you can only do things so far, and then you have a military that is inflexible, and can't move and can't handle contingencies.

ESQ: Doesn't this shift a lot of emphasis to our reserve forces?

General Dougherty: The military has really recognized that our total force—our active force, plus our 'Guard and Reserves—have to be well equipped and really be well trained. You know, I started in the military in 1935 in the National Guard, in a hand-me-down outfit equipped with what was left over after World War I when we demobilized. It had little military utility at all and didn't even make a good looking parade because of the antiquity of the stuff. But, the National Guard and Reserve in those days just had junk, and the training was just a farce. That's way behind us in the Air Force—and I'm glad to say we're leading the other services—but we're getting first rate 'Guard and Reserve forces that are just as competant and capable as the regular—and that's the way its got to be. We're doing that well. But, you can't do it beyond a point, or you become inflexible. There are some missions that the 'Guard and Reserves can take very well—and do. And others that they are not able to take because of the unscheduled nature of contingencies. I think that we've got a model right today in the relationship of our 'Guard and Reserve and our regular components. That's really superb. I hope it is in the Engineering and Services area. This is great. And it can be even better if we give it more funding and we get people to recognize that the units in your hometown, with your 'Guard and your Reserve people, have to be trained in wartime missions and they've got to be ready, equipped, and, available.

ESQ: There is a new trend toward conservatism in the society but we also see a trend toward pragmatism. How will this affect the military?

General Dougherty: There is always the possibility of a very relaxed way of thinking creeping into the military, or even a disdain for integrity. Maybe this is the poison of the society that's spilling over in to the professional ranks—people whose word is not reliable; those who will cut corners; who will lie, cheat and steal—to put it candidly. And, that's something that's almost an anathema to the military. They can't have it that way. That is a reflection of a society that has lost its integrity. We've got to keep it out of the military. There is no room in the military for a lack of integrity, because everybody is absolutely dependent on each other, and the whole system is based on a mission consciousness and the ability to work together; and the ability to be believed and be trusted.

ESQ: When you used the word integrity almost automatically I thought of one of my former commanders, Gen. Bryce Poe.

Gen. Dougherty: Exactly right. Bryce fits the image of everything that I mean when I say the word integrity. We cannot afford to have people who aren't like that. The whole system is based on trust and responsiveness. And, if you get people in positions of leadership—particularly among our NCOs and our officers—who act from motives other than those of pure integrity, honor, and duty, then it permeates the system. Just one or two like that can destroy the system. I guess in an organization of half a million people you can expect to have some manifestations of malfeasance or misfeasance, but I hope not.

ESQ: On the other hand, the Air Force has had some super people as examples and this sets some very high goals for others.

Gen. Dougherty: But, every one of them ought to be examples. You know, everybody in the military after basic and tech school, I guess, is somebody else's example. It's because of the nature of our hierarchial structure, to a degree that's not like any other job. In the military you come in at the bottom and you rise to the level of your capability, but very soon you become senior to somebody and that somebody is looking to that military person as an example. That's the way to do it. That's the way airmen third class are supposed to act—or airmen first or sergeants or lieutenants or majors—everybody is somebody else's example. That's not bad because it causes people to extend themselves sometimes beyond their capabilities and that power of exemplary performance is a good inspiration to people. But, we have had some bad ones. You can't have a military that way. The people are getting pretty cynical. People will get cynical about their jobs if their nation gets cynical about their reason for being; and if the nation becomes cynical about its military, then the military is giving back what they deserve.★

A SAC pilot turned civil engineer impressed General Dougherty. Maj. Gen. Ellie G. (Buck) Shuler Jr., is 3AD/CC, Andersen AFB, Guam. As assistant DCS/DE at HQ 2nd AF, Barksdale AFB, La., "Buck was a high-visibility engineer, and he was all over that big base at Barksdale—in fact, he was later all over entire commands—providing engineering services."

When then-Brig. Gen. Thompson was USAFE/DE, Lt. Col. Shuler was "exec" to Gen. David C. Jones, CINC/USAFE, and later BCE, Ramstein AB.

"As one of Bob's engineers, Buck handled a lot of difficult things associated with the moving of USAFE headquarters from Wiesbaden to Ramstein. I don't think you could have been in the middle of that move without realizing that Engineering and Services had really come along. That may have been the spawning ground (for merging the two)."

At HQ SAC, Col. Shuler was director, Programs, for then-Brig. Gen. Clifton D. Wright Jr., SAC DCS/DE, and later "exec" to CINCSAC.

CESMET tips

QAE—Is Yours Effective ?

The Quality Assurance Evaluator (QAE) largely determines the effectiveness of your Contractor-Operated Civil Engineering Supply Store (COCESS) operation. Over the past 6 months, CESMET has noted that many of our QAE programs are weak. The QAE must ensure that the contractor performs as specified in the contract. The best tool for managing the QAE program is the QAE log. All important performance data should be evaluated and the results entered in the log. We suggest evaluating at least one performance item each day. Some of these could be: bench stock out-of-stock conditions and the contractor's response to these conditions, EDD/RDD response, NPI/PRI changes, and brand name responses. These are but a few of the key management indicators you want to look at. If possible do not award the rating "satisfactory." This implies everything the contractor did that day met contract specifications. Be specific in your evaluations. Don't generalize. Brief the CE commander at least weekly on how the contractor is performing. Make sure base contracting is kept in the picture. In those units where we found the QAE program to be weak, the primary reason seemed to be inadequate training. You must ensure that your QAE receives the required training. Without it hershe will be ineffective and your overall customer support will suffer. Take a hard look at your program and see if your QAEs have the necessary experience and training to do their jobs. (HQ AFESC/DET, Lt. Col. Wyatt, AUTOVON 970-6290)

Dormitory Management

CESMET has consistently found the most effective dormitory management where there is a Central Dormitory Management (CDM) office under the services squadron or division. These CDM operations still incorporate the concept of unit (squadron) integrity in room assignments, while centrally managing base commander inspections, bay orderly work, supplies issue, and furnishings accountability. Under CDM, the dormitory managers work for a knowledgeable 611X0 supervisor, receive better training, are better motivated, and have better morale. Those factors do result in better dormitories.

Currently, manpower fluctuations or major command/local policy may prohibit CDM. In those cases, some chiefs of Services have maintained informal control over dormitory managers by establishing monthly dormitory manager meetings. The chief of Services usually acts as advisor/recorder to an elected chairman. These meetings create a crossflow of information between managers, serve as a forum for staff agency briefings (i.e., Furnishings Management Office, Base Supply, Linen Exchange, etc.), and provide training for newly assigned, temporary and non-611X0 dorm managers. Some chiefs of Services have created a base handbook by modifying the USAF *Dormitory Managers Handbook* to fit local conditions. Others have created a standard dormitory manager task sheet on an AF Form 797 to supplement OJT records.

While responsibility for dormitory conditions still rests with squadron commanders and first sergeants, many chiefs of Services will advise and channel dormitory progress through CDM or monthly dormitory manager meetings. (HQ AFESC/DET, Maj. Wintner, AUTOVON 970-6295)

Design Status Management

Evaluating the progress being made on the overall scheduled design program at base level is often a nebulous "guess" or "gut feel." Most bases brief the design status of each project at the commander's update briefing, using several very busy slides. This detailed approach is fine if this is what is really desired by the commander—and certainly special interest projects may always need to be tracked like this. However, the intent of an update briefing is to provide information in an executive format. Perhaps the BCE and the commander only really need and want to know if the technical design section is progressing "on target" to complete the approved Facilities Board design schedule. In keeping with the executive approach, several bases we have seen recently are now using one slide to depict the overall design status.

Several formats can be used including tracking the number of designs/dollars completed or the percentage of the overall design program completed against time. The beauty of one slide is that it can show several significant things:

- The design section cranking out the completed designs on schedule,
- Impacts on the "schedule" are visible (i.e., special project insertions affect the programmed schedule).
- Earlier design completions are now required to meet new Air Staff policy guidance, and this overall time schedule monitoring can help.

Look at how you track overall design progress. If you like this idea, bounce *your approach* up to the BCE and see if it will "fit" his concept and briefing style. (HQ AFESC/DET, Lt. Col. Safrit, AUTOVON 970-6290)

Promotions

COLONEL SELECTEES

Allen, John J.
Andrews, Melville M. Jr.
Ashdown, Floyd A.
Aulwurm, Henry C.
Bechtol, Joseph J.
Benzinger, Richard Jr.
Christiansen, Russell V.
Comrie, Andrew B.
Courter, Robert J., Jr. *
Craddock, Dabney S. III
Cunningham, John H.
Deluca, Robert
Dickerson, Warren C.
Donovan, John S.
Dooley, Frank **
Eddings, James A.
Frein, Emil C.
Manning, Keith H.
McAuliffe, Michael A.
Mugg, Steven C.
Peot, Thomas E.
Pyrz, Anthony P. *
Thomas, Donald J. *
Thompson, Richard A.
Thorton, Robert E.
Verkest, William A.

LIEUTENANT COLONEL SELECTEES

Amatulli, Ladis W.
Anderson, Keith H. **
Armour, H. Michael Jr.
Baker, Jack T. *
Bartel, Harvey D.
Bean, Allan K.
Bittner, Robert J.
Black, Thomas J. III
Blanco, James P. **
Brady, David F.
Bryan, Richard T.
Cardinale, Richard O.
Celmer, Philip R. III
Chisolm, Stoney P.
Clark, Dwight E.
Cuddihee, Michael A. *
Dando, James C.
Davis, James N.
Depierre, Robert E.
Doepke, Chris E.
Donley, Derek B. *
Ehnert, George C.
Galer, Lawrence A.
Gammon, Richard * **
Glantz, Steven F. **
Hanna, Kenneth L.
Hanson, Thomas M.
Harrington, Jerrold B.
Heywood, Seth Jr.
Holden, Philip C.
Johnston, Roland W.
Lee, Gordon K. W.
Lemarr, Mike
Madrid, Marcos J.
McMahon, Gerald J.
McPherson, Michael F.
Mitchell, James A. * **
Moss, Richard N.
Mueller, Michael J. **
Nettleship, Robert S. Jr.
Norton, James Jr. **
Olmstead, Thomas W. *
Owendoff, James M.
Pearce, Charles L.
Reddy, John A. **
Robbins, Earnest O. II
Rohman, Randall L.
Rubio, Carlos E.
Saenz, Jose L.
Smallheer Kim A. **
Tate, Gary L. **
Topper, Dennis R.
Tucker, Alan E.M.
Tucker, Charles H. Jr.
Tucker, Gary L. *
Tull, David E.
Wingfield, Stephen R. **
Wright, Janet I. **

MAJOR SELECTEES

Allen, Robert W. **
Amend, Joseph H. III
Artman, David H. Jr.
Arzt, Frederick K. Jr.
Barthold, Bruce R.
Barnett, Donna G. * **
Batten, Foster I. **
Beally, Timothy N.
Becker, Henry D.
Behan, James J.
Belyeu, Troy E.
Beyer, Gregory T.
Bradham, Gary C. **
Brady, William A. Jr. **
Burns, Patrick A. *
Caples, Buddy C.
Carson, William J.
Chang, Stanton A.
Clements, Gary A.
Cluck, Stewart C.
Cole, Jerry D.
Cole, John R.
Connell, James E.
Damore, George F.
Dennis, Richard W. *
Eng, William F.
Estill, David J. **
Evans, Stephen M.
Garber, Larry E. **
Gilbert, Robert L.
Glavan, John R.
Goltz, Mark N.
Gore, Monnie L. Jr.
Hannah, Norman A. Jr.
Hansen, Kevin P.
Hicks, Alfred B. Jr. *
Hollins, Eddie C.
Hopping, John P. Jr.
Hughes, James R.
Johnston, Rick A.
Judkins, James E. *
Karvosky, Richard J.
Kehias, George A.
Kinman, Samuel D.
Kloeber, Peter K. *
Kohlhaas, Calder D. Jr. *
Krans, Raymond L.
Kukuk, Steven D.
Larsen, Edwin M.
Larsen, William K. **
Love, Francis E.
Lubozynski, Frank T. ****
Maguire, Patricia K. **
Maricle, Wayne S.
Mayer, Claude C.
McDonald, Thomas J.
McDonald, William M.
McKinnis, William C. Jr.
Meister, Donald J.
Minto, Paul E.
Mogge, John W. Jr. *
Neve, Trevor L.
Oakley, Michael P.
Patrick, Michael R.
Patrick, Nicholas **
Patterson, Joseph G.
Pearson, William R.
Perrie, Alfred H. **
Pierre, Daniel J.
Proctor, Max L.
Renko, Gregory J. **
Roach, Michael P.
Roberts, Gregory L.
Smith, McBurnett J. Jr. **
Smith, Scott L. *
Sobin, Ivan D. **
Sullivan, Dennis L.
Taylor, Richard M.
Uecker, Michael E.
Waller, Steven D.
Werner, Kenneth W.
Westmoreland, James W. Jr.
White, David B. **

*** Selected below the zone**
**** Services officer**
***** Developmental engineer**
****** Biomedical officer**

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U.S. Government Printing Office, 1985-554-122-1